

Section 18

Communications

This section presents statistics on usage, finances, and operations of the various communications media: Postal service, telephone, telegraph, radio, television, newspapers, and books. Data on the postal service are included in the *Annual Report of the Postmaster General*. Statistics on revenues, volume of mail, and distribution of expenditures by classes of mail and services are presented in the Post Office Department's annual *Cost Ascertainment Report*. Principal sources of wire, radio, and television data are the Federal Communications Commission's *Annual Report*, its annual *Statistics of Communications Common Carriers*, and its annual releases of financial data reported by radio and television stations and networks. Statistics on number and circulation of newspapers and periodicals and on sales of books and pamphlets are issued by the Bureau of the Census in reports of the Census of Manufactures. Annual data on number and circulation of daily and Sunday newspapers appear in Editor and Publisher's *International Yearbook Number*. Monthly data on new books and new editions of books are presented by R. R. Bowker Company in *Publishers' Weekly*.

Postal Service.—"Cost ascertainment" is the term used by the Post Office Department to describe its system for developing data on revenues, expenses, volume, and average hauls fairly attributable to each class of mail handled by the Postal Service (first, second, third, fourth, foreign, penalty, franked, free for the blind, and air mail) and similar data for each of its special services (special delivery, money order, insurance, collect-on-delivery, registry, certified, and postal savings).

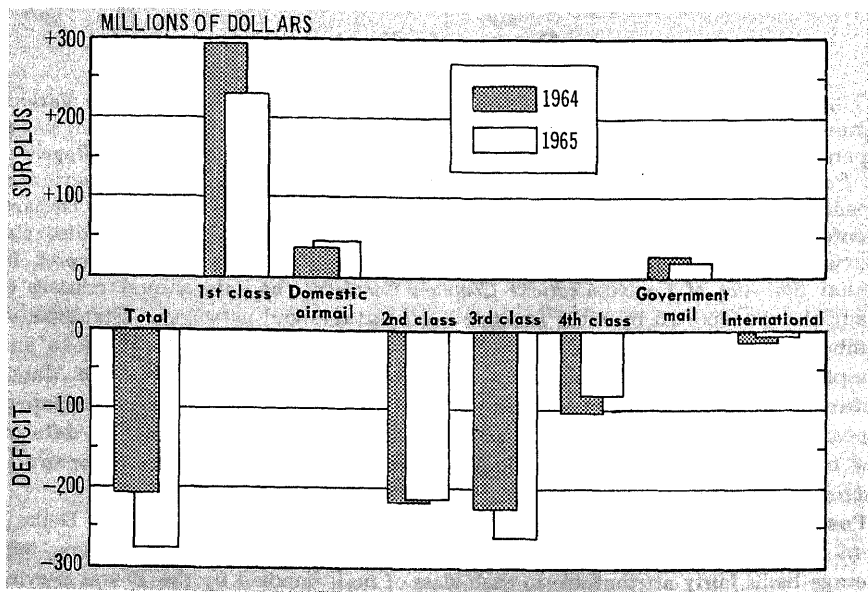
Telephone and telegraph systems.—Statistical coverage of wire and radio communications has been concentrated in the Federal Communications Commission since its establishment in 1934. According to the Communications Act of 1934, as amended, the Commission has full jurisdiction only over carriers engaged in interstate or foreign communications service by means of their own facilities or those of another carrier under direct or indirect common control. The Commission requires all except the smallest of these carriers to file annual and monthly reports and requires the companies controlling any but the smallest to file annual reports. Full jurisdiction applies to practically all wire-telegraph, ocean-cable, and radiotelegraph carriers but not to a large number of telephone carriers which are engaged in interstate or foreign service only by connection with the facilities of another unaffiliated carrier. However, the gross operating revenues of the telephone carriers reporting annually to the Commission are estimated to cover over 90 percent of the revenues of all telephone carriers in the United States.

Broadcasting.—The number of broadcast stations refers to the number licensed or holding construction permits. Total broadcast revenues are defined as total time sales of all networks and stations, less commissions to agencies and plus incidental revenues, such as sale of talent, program material, etc. Reports filed with the Federal Communications Commission by broadcast stations and networks cover substantially all units operating in the United States and its outlying areas.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

FIG. XXXII. SURPLUS OR DEFICIT IN MAIL REVENUES AND ACCRUED COSTS
1964 AND 1965

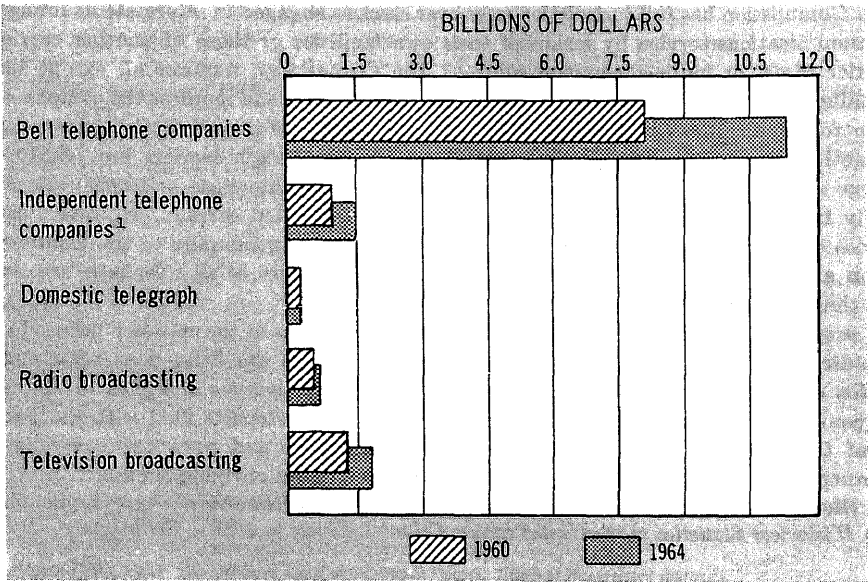
[See table 721]



Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from Post Office Dept.

FIG. XXXIII. OPERATING REVENUES OF SELECTED COMMUNICATIONS MEDIA: 1960
AND 1964

[See tables 728, 729, 735, 740, and 741]



¹ Includes estimates for nonreporting companies; see footnote 2, table 729.

Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from American Telephone & Telegraph Company, United States Independent Telephone Association, and Federal Communications Commission.

No. 719. UNITED STATES POSTAL SERVICE—SUMMARY: 1900 TO 1965

[For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. See text, p. 507. See also *Historical Statistics, Colonial Times to 1957*, series R 139-141 and R 145]

YEAR	Number of post offices	FINANCES ¹			Revenue per capita ³	MONEY ORDERS ISSUED		Sales of postage stamps and other stamped paper	Postage paid under permit (1st, 2d, 3d, and 4th class)	Number of pieces of mail handled ⁴
		Revenues	Expenditures ²	Surplus (+) or deficit (—)		Domes- tic	Inter- national			
		<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Dollars</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Millions</i>
1900.....	76,688	102	108	—5	1.34	239	17	94	(⁵)	7,130
1905.....	68,131	153	167	—15	1.82	402	43	140	1	10,188
1910.....	59,580	224	230	—6	2.43	558	90	202	4	14,850
1915.....	56,380	287	299	—11	2.85	665	52	256	8	(NA)
1920.....	52,641	437	454	—17	4.11	1,342	23	380	13	(NA)
1925.....	50,957	600	639	—40	5.28	1,649	36	508	39	25,835
1930.....	49,063	705	804	—98	5.75	1,735	52	575	74	27,888
1935.....	45,686	631	697	—66	4.94	1,829	22	473	96	22,332
1940.....	44,024	767	808	—41	5.84	2,103	13	522	177	27,749
1945.....	41,792	1,314	1,145	+169	9.44	4,866	21	954	252	37,912
1950.....	41,464	1,677	2,223	—545	11.14	5,165	16	862	675	45,064
1955.....	38,316	2,349	2,712	—363	14.33	5,865	31	999	1,136	55,234
1959.....	35,750	3,035	3,640	—605	17.28	5,158	26	1,243	1,537	61,247
1960.....	35,238	3,277	3,874	—597	18.27	5,031	27	1,243	1,701	63,675
1961.....	34,955	3,423	4,249	—826	18.78	4,958	25	1,250	1,829	64,933
1962.....	34,797	3,557	4,332	—775	19.20	4,787	25	1,260	1,930	66,493
1963.....	34,498	3,879	4,699	—820	20.63	4,709	23	1,379	2,111	67,853
1964.....	34,040	4,276	4,928	—652	22.41	4,719	22	1,504	2,357	69,676
1965.....	33,624	4,483	5,276	—793	23.17	4,519	20	1,528	2,532	71,873

NA Not available.

¹ After allowance for reimbursements, embossed envelope purchases, indemnity claims, and miscellaneous revenue and expenditure offsets. Revenues, expenditures, and deficits through 1950 on cash-disbursement basis, i.e., they include payments and receipts in a year applicable to prior years; beginning 1955, expenditures are shown in year in which obligation was incurred, and revenues in year which gave rise to the earnings, whether collected or accrued. During fiscal 1954, the Department began receiving reimbursement for penalty and franked mail, and discontinued payment of subsidies to airlines. Revenues include reimbursements from the Treasury General Fund for statutory public services as follows: 1960, \$37.4 million; 1961, \$49.0 million; 1962, \$62.7 million. These and other changes affect comparability of figures from year to year.

² Includes capital expenditures for plant and equipment and cost of materials and supplies, but no provision for depreciation. Also includes costs of certain services rendered to other agencies without reimbursement but excludes costs of certain services rendered to the Post Office Department by other agencies. Beginning 1955, amounts shown represent obligations incurred. Beginning 1963, amount represents accrued expense including depreciation on fixed assets, reimbursable work for others, and expenses paid by certain other agencies without reimbursement by the Department. ³ Based on Bureau of the Census estimated total population as of Jan. 1, including Armed Forces abroad.

⁴ Estimates. ⁵ Service not inaugurated. ⁶ Includes postal notes issued under act of Congress.

Source: Post Office Dept.; *Annual Report of the Postmaster General and Cost Ascertainment Report*.

No. 720. POSTAL SERVICE REVENUES, BY SOURCE: 1920 TO 1965

[In millions of dollars. For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. See text, p. 507]

REVENUE SOURCE	1920	1930	1940	1945	1950	1955	1960	1964	1965
Total ¹.....	437	705	767	1,314	1,677	2,349	3,277	4,276	4,483
Ordinary postal revenue.....	424	686	732	1,247	1,606	2,266	3,189	4,144	4,361
Stamps, postal cards, etc.....	380	575	522	954	862	999	1,243	1,504	1,523
Second-class postage paid in money (pound rates) ^{2,3}	25	29	23	25	40	64	86	118	131
Other postage paid in money under permit ²	13	74	177	252	678	1,136	1,701	2,357	2,532
Box rents.....	6	9	8	11	14	26	29	34	34
Miscellaneous.....	1	1	3	4	11	41	130	131	136
Money-order revenues.....	10	17	24	47	63	66	81	62	59
Postal Savings System income.....	2	2	11	21	8	18	7	3	3

¹ Net revenue after refunds of postage. Beginning 1964, includes operating reimbursements, not shown separately. ² Beginning 1950, includes fees, previously included with "Miscellaneous."

³ Beginning 1955, includes controlled circulation publications.

⁴ Includes \$37.4 million appropriated to postal revenues for public services as provided by the Postal Policy Act of 1958.

Source: Post Office Dept.; *Annual Report of the Postmaster General*.

NO. 721. POSTAL REVENUES AND ACCRUED COSTS, BY CLASS OF MAIL AND TYPE OF SERVICE: 1964 AND 1965

[In thousands of dollars. For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. See also *Historical Statistics, Colonial Times to 1957*, series R 146-160]

MAIL AND SERVICE	1964				1965			
	Revenues	Total accrued costs, including public services	Deduct public service losses and costs ¹	Excess of revenues (+) or obligations (-)	Revenues	Total accrued costs, including public services	Deduct public service losses and costs ¹	Excess of revenues (+) or obligations (-)
All operations.....	4,276,123	4,927,825	447,548	-204,154	4,483,390	5,274,828	514,107	-277,332
All mails and special services.....	4,226,121	4,761,935	331,660	-204,154	4,438,721	5,109,302	393,250	-277,332
Prepaid domestic mail.....	3,717,993	4,211,882	272,900	-221,014	3,921,864	4,531,133	316,012	-283,258
1st class.....	2,109,398	1,814,103	-	+295,295	2,192,790	1,965,168	-	+227,622
Domestic airmail.....	216,053	181,201	-	+34,853	242,987	197,777	-	+45,210
2d class.....	108,440	480,850	156,576	-215,834	119,149	498,987	165,026	-214,812
Controlled circulation publications.....	12,635	21,075	-	-8,440	15,208	24,805	-	-9,597
3d class.....	612,227	898,910	62,694	-223,989	649,987	998,817	87,454	-261,377
4th class (parcel post).....	659,214	815,743	53,630	-102,900	701,743	845,579	63,532	-80,304
Government mail.....	119,038	95,014	305	+24,329	123,674	103,775	354	+20,252
Penalty ²	114,315	89,069	134	+25,379	117,672	97,081	156	+20,237
Franked ³	4,723	5,945	171	-1,050	6,512	6,695	198	+15
Free for the blind.....	-	2,897	2,897	-	-	2,844	2,844	-
International mail.....	139,590	150,802	800	-10,412	152,041	157,511	300	-5,170
Special services.....	239,318	294,076	54,758	-	232,280	306,021	73,741	-
Registry (paid).....	35,528	44,963	9,435	-	32,525	47,215	14,690	-
Certified mail.....	10,766	13,082	2,316	-	11,065	14,555	3,490	-
Insurance.....	28,748	33,008	4,260	-	29,137	35,057	5,920	-
Collect on delivery.....	13,463	26,148	12,686	-	13,181	26,251	13,070	-
Special delivery.....	34,601	54,281	19,680	-	34,934	58,760	23,825	-
Money orders.....	62,155	73,028	10,873	-	58,965	71,538	12,574	-
Postal savings.....	3,158	3,104	+54	-	3,290	2,823	+467	-
Box rent service.....	34,199	25,771	+8,428	-	34,461	29,549	+4,912	-
Stamped envelope service.....	16,700	20,691	3,991	-	14,722	20,272	5,550	-
Unassignable.....	10,207	7,263	-	+2,944	8,863	8,019	-	+844
Nonpostal services.....	50,002	72,378	22,376	-	44,669	66,434	21,764	-
Alien address reporting.....	281	281	-	-	283	283	-	-
U.S. savings bonds and stamps.....	822	685	+137	-	803	741	+62	-
Migratory bird stamps.....	104	107	3	-	115	154	39	-
Custodial service (public bldgs.).....	386	16,926	16,539	-	310	16,016	15,706	-
Transportation of military mail.....	48,090	48,090	-	-	42,460	42,460	-	-
Miscellaneous items, other agencies.....	318	6,288	5,971	-	699	6,781	6,082	-
Public service-direct cost.....	-	93,512	93,512	-	-	99,092	99,092	-

- Represents zero.

¹ P.L. 87-793 amended Section 2303(a) of 39 VSC to provide for treatment of losses on specified free and preferred rate mails and services as public service losses; amounts shown for classes of mail and services are the computed public service costs attributable to provisions of this law.

² Includes special services, other departments, Government Printing Office mailings of *Congressional Record* and other documents sent at congressional request. ³ Includes registry (official).

Source: Post Office Dept.; *Cost Ascertainment Report*, and unpublished data.

NO. 722. PIECES OF MAIL RECEIVED PER CAPITA: 1945 TO 1965

[For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. Based on estimated total population as of January 1, including Armed Forces abroad]

TYPE OF MAIL	1945	1950	1955	1959	1960	1961	1962	1963	1964	1965
Major domestic mail.....	257	287	324	335	341	342	345	347	351	357
Letters (1st class and airmail).....	166	168	184	192	193	196	199	199	201	205
2d class.....	42	42	41	40	42	44	44	44	46	46
3d class.....	41	69	92	97	100	97	97	98	97	101
4th class.....	8	8	7	6	6	5	5	6	6	5

Source: Post Office Dept. Based on *Annual Report of the Postmaster General and Cost Ascertainment Report*.

No. 723. POSTAL SERVICE OBLIGATIONS AND ACCRUED COSTS, BY OBJECT: 1955 TO 1965

[In millions of dollars. For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724]

OBJECT	1955	1960	1962	1963	1964	1965
Total funded costs ¹	2,738	3,920	4,396	4,530	4,747	5,085
Post Office operations.....	2,266	3,170	3,599	3,829	4,033	4,375
Salaries and travel of postmasters and supervisors.....	249	378	437	453	478	511
Salaries and travel of clerks, etc.....	826	1,239	1,415	1,522	1,606	1,755
City delivery service.....	535	814	942	1,028	1,093	1,205
Rural delivery service.....	195	253	276	236	252	264
Postal transportation service.....	180	101	102	107	112	115
All other.....	281	385	427	483	492	525
Transportation of mails.....	429	535	601	603	612	602
Railroad.....	297	341	358	355	351	331
Star route ²	49	70	83	77	81	90
Domestic water transportation.....	3	4	5	4	4	5
Highway post offices.....	4	6	6	6	6	6
Domestic airmail.....	34	49	63	67	74	82
Foreign airmail.....	27	44	67	74	74	67
Other foreign mail ³	16	21	19	20	21	21
Claims and miscellaneous.....	6	8	9	10	11	11
General administration and overhead apportioned.....	38	207	187	88	91	97

¹ Beginning 1963, represents appropriation obligations adjusted for public service costs and changes in selected resources. Excludes depreciation or other non-fund costs.

² Includes short-haul truck route.

³ Includes terminal and transportation charges by foreign countries.

Source: Post Office Dept.; *Cost Ascertainment Report*.

No. 724. POST OFFICES—STATES AND OTHER AREAS: 1960, 1964, AND 1965

[For years ending June 30. Represents independent post offices; excludes branches and stations]

STATE OR OTHER AREA	1960	1964	1965	STATE OR OTHER AREA	1960	1964	1965
Total	35,238	34,040	33,624	South Atlantic—Con.			
United States	35,118	33,922	33,507	South Carolina.....	435	425	423
New England	2,068	1,974	1,952	Georgia.....	714	700	696
Maine.....	599	568	561	Florida.....	514	494	490
New Hampshire.....	297	278	273	East South Central	3,575	3,421	3,345
Vermont.....	323	315	310	Kentucky.....	1,643	1,637	1,489
Massachusetts.....	519	491	488	Tennessee.....	651	637	630
Rhode Island.....	62	62	60	Alabama.....	738	722	711
Connecticut.....	268	260	260	Mississippi.....	543	525	515
Middle Atlantic	4,394	4,275	4,227	West South Central	3,797	3,707	3,676
New York.....	1,757	1,724	1,710	Arkansas.....	795	777	768
New Jersey.....	553	543	544	Louisiana.....	593	578	573
Pennsylvania.....	2,084	2,008	1,973	Oklahoma.....	718	695	691
East North Central	5,121	5,022	4,991	Texas.....	1,691	1,657	1,644
Ohio.....	1,169	1,132	1,123	Mountain	2,480	2,373	2,330
Indiana.....	823	807	798	Montana.....	439	417	410
Illinois.....	1,365	1,347	1,342	Idaho.....	321	301	298
Michigan.....	933	915	908	Wyoming.....	222	210	201
Wisconsin.....	831	821	820	Colorado.....	475	461	456
West North Central	5,525	5,385	5,337	New Mexico.....	404	388	379
Minnesota.....	943	924	919	Arizona.....	242	231	228
Iowa.....	1,026	1,009	1,006	Utah.....	266	260	253
Missouri.....	1,142	1,098	1,083	Nevada.....	111	105	105
North Dakota.....	540	530	521	Pacific	2,617	2,503	2,466
South Dakota.....	476	458	453	Washington.....	583	545	537
Nebraska.....	608	597	592	Oregon.....	431	407	392
Kansas.....	790	769	763	California.....	1,305	1,257	1,240
South Atlantic	5,541	5,262	5,183	Alaska.....	215	221	217
Delaware.....	61	60	60	Hawaii.....	83	80	80
Maryland.....	486	470	464	Other	120	118	117
Dist. of Columbia.....	1	1	1	Puerto Rico.....	105	102	102
Virginia.....	1,228	1,094	1,059	Virgin Islands.....	5	5	5
West Virginia.....	1,267	1,197	1,173	Other areas ¹	10	11	10
North Carolina.....	835	821	817				

¹ Comprises Canton Island, Guam, Samoa (Tutuila), Wake, Caroline, Mariana, and Marshall Islands.

Source: Post Office Dept.; *Annual Report of the Postmaster General*.

No. 725. POST OFFICE MAIL, BY CLASSES: 1950 TO 1965

[For years ending June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. See also *Historical Statistics, Colonial Times to 1967*, series R 145-160]

CLASS OF MAIL	1950	1955	1960	1962	1963	1964	1965
PIECES OF MAIL ¹ (millions)							
All mail.....	45,064	55,234	63,675	66,493	67,853	69,676	71,873
Domestic.....	44,646	54,722	63,115	65,987	67,314	69,117	71,294
1st class.....	24,500	25,713	33,235	35,333	35,833	36,943	38,068
Airmail.....	853	1,467	1,356	1,545	1,545	1,505	1,629
2d class.....	6,265	6,740	7,535	8,090	8,227	8,559	8,600
3d class.....	² 10,343	15,050	17,910	17,837	18,407	18,599	19,454
4th class (parcel post).....	² 1,179	1,136	1,016	1,024	1,076	1,066	1,045
Controlled circulation publications.....	(²)	85	125	165	196	250	281
Penalty.....	1,472	1,480	1,826	1,877	1,927	2,067	2,088
Franked.....	32	48	109	111	95	120	122
Free for blind.....	2	3	5	6	7	8	7
International.....	417	512	560	507	538	560	579
Regular mail ³	190	235	212	190	203	215	213
Parcel post.....	21	8	9	7	8	8	9
Publishers' 2d class.....	85	110	145	90	96	98	97
Airmail ³	121	157	193	215	231	237	259
Air parcel post.....	1	1	1	1	2	2	2
WEIGHT OF MAIL (mil. lb.)							
All mail.....	11,521	10,844	11,689	11,680	11,868	12,202	12,330
Domestic.....	11,176	10,668	11,500	11,528	11,710	12,035	12,152
1st class.....	620	804	956	1,061	1,082	1,130	1,200
Airmail.....	53	85	103	122	128	137	155
2d class.....	2,287	2,582	2,883	2,908	2,910	3,031	3,133
3d class.....	² 646	892	1,277	1,396	1,527	1,601	1,705
4th class (parcel post).....	² 7,370	6,035	5,879	5,573	5,563	5,623	5,425
Controlled circulation publications.....	(²)	44	63	73	83	97	114
Penalty.....	183	201	305	357	376	376	383
Franked.....	5	5	9	7	7	7	8
Free for blind.....	12	20	26	31	35	35	30
International.....	345	177	189	153	158	168	178
Regular mail ³	25	33	36	33	38	42	42
Parcel post.....	272	82	77	64	61	62	69
Publishers' 2d class.....	43	54	66	44	45	47	49
Airmail ³	4	6	7	9	10	12	13
Air parcel post.....	1	1	3	3	4	4	5

¹ Estimated.

² Publications included with 3d and 4th class.

³ Comprises letters, cards, and other articles.

Source: Post Office Dept.; *Cost Ascertainment Report*.

No. 726. POST OFFICE EMPLOYEES, BY TYPE: 1950 TO 1965

[As of June 30. Includes Puerto Rico and all outlying areas except Canal Zone; see table 724. Includes classified and war-service regular employees of all activities. See *Historical Statistics, Colonial Times to 1967*, series R 161, for total employees]

TYPE OF EMPLOYEE	1950	1955	1960	1962	1963	1964	1965
Total.....	500,578	511,613	562,868	588,477	587,161	585,313	595,512
Substitute.....	136,804	144,712	153,881	153,281	150,031	144,554	148,118
Regular.....	363,774	366,901	408,987	435,196	437,130	440,759	447,394
Departmental.....	1,775	1,530	1,481	1,626	1,605	1,687	1,849
Field.....	361,999	365,371	407,506	433,570	435,465	439,072	445,545
Regional and other field units reporting to Headquarters ¹	-	2,599	6,491	6,309	6,075	5,933	5,505
Inspection service.....	1,172	1,313	1,483	1,505	1,506	1,587	1,565
Postmasters.....	² 45,004	² 42,233	35,165	34,639	34,335	33,869	33,304
Post office supervisors and technical personnel.....	(³)	(³)	27,070	28,521	28,909	29,360	29,863
Post office clerks and mail handlers.....	³ 169,148	³ 174,920	171,914	185,068	184,311	185,044	188,460
City carriers ⁴	90,216	91,418	109,749	123,941	126,602	129,336	132,522
Rural carriers.....	32,553	32,022	31,296	31,201	31,131	31,098	30,981
Special delivery messengers.....	2,004	2,086	2,282	2,446	2,422	2,415	2,438
Vehicle service.....	4,699	5,081	7,087	3,618	3,599	3,613	3,673
Maintenance service.....	17,203	13,699	14,969	16,322	16,575	16,847	17,234

- Represents zero. ¹ Includes money order center and supply center personnel.

² Includes assistant postmasters: 3,540 in 1950, and 3,917 in 1955. ³ Includes postal transportation employees.

⁴ Beginning 1962, vehicle drivers included with city carriers.

Source: Post Office Dept.; *Annual Report of the Postmaster General*.

No. 727. TELEPHONES, CALLS, AND RATES: 1940 TO 1965

[See also *Historical Statistics, Colonial Times to 1967*, series R 1-13]

ITEM	1940	1950	1960	1961	1962	1963	1964	1965
Telephones (Dec. 31).....1,000..	21,976	43,131	74,342	77,422	80,969	84,453	88,785	93,628
Total per 1,000 population.....	164.9	280.8	407.7	417.7	430.3	442.7	458.8	478.1
Bell companies ¹1,000..	18,311	36,795	62,089	65,507	68,393	71,152	74,659	78,633
Dial operated ¹1,000..	10,915	27,893	61,144	64,253	67,490	70,586	74,303	78,439
Independent companies.....1,000..	3,665	6,336	11,353	11,915	12,576	13,298	14,126	14,995
Average daily conversations (1,000):								
Bell companies ^{1 2}	82,367	144,999	225,385	232,859	240,106	258,066	269,300	287,400
Local ¹	79,515	138,881	215,317	222,320	237,942	246,282	256,500	273,400
Long distance ^{1 2}	2,852	6,118	10,068	10,539	11,164	11,784	12,800	14,000
Independent companies ²	17,252	31,159	60,001	64,251	67,400	70,800	75,900	81,000
Local.....	16,738	29,927	58,005	62,177	65,158	68,400	73,200	78,100
Long distance ²	514	1,232	1,996	2,074	2,242	2,400	2,700	2,900
Toll rates in effect (Dec. 31), from New York City to:³								
Philadelphia.....	\$0.45	\$0.45	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50
Chicago.....	1.90	1.55	1.45	1.45	1.45	1.45	1.45	1.40
Denver.....	3.25	2.20	1.80	1.80	1.80	1.80	1.80	1.70
San Francisco.....	4.00	2.50	2.25	2.25	2.25	2.25	2.25	2.00

¹ Comprises American Telephone and Telegraph Company and its principal telephone subsidiaries, which constitute the Bell Telephone System, plus Southern New England and Cincinnati and Suburban Bell Telephone Companies, together with telephones serviced by these companies. The Bell companies have no operations in Alaska, Hawaii, and Puerto Rico.

² Includes messages originating in independent company areas routed in part over Bell facilities.

³ Source: Federal Communications Commission. Represents rate for station-to-station, daytime, 3-minute call.

Source: American Telephone and Telegraph Company, New York, N.Y., except as noted; compiled from annual reports of A.T. & T. Co. and its principal telephone subsidiaries, and Southern New England and Cincinnati and Suburban Companies, and unpublished data.

No. 728. BELL TELEPHONE COMPANIES—SUMMARY: 1940 TO 1965

[Money figures in millions of dollars. As of December 31 or calendar year, as applicable. Comprises American Telephone and Telegraph Company and its principal telephone subsidiaries, which constitute the Bell Telephone System, plus Southern New England and Cincinnati and Suburban Bell Telephone Companies. Bell companies have no operations in Alaska, Hawaii, and Puerto Rico. See also *Historical Statistics, Colonial Times to 1967*, series R 14-27]

ITEM	1940	1950	1960	1961	1962	1963	1964	1965
Central offices, number ¹	7,189	8,656	11,212	11,449	11,683	12,445	13,107	13,425
Miles of wire ²1,000..	91,274	144,256	307,876	327,319	346,697	368,594	394,360	422,623
Percent total wire mileage in cable.....	95.8	96.6	97.8	97.9	98.0	98.1	98.3	98.5
Miles of coaxial tube.....	-	62,741	96,783	105,507	107,748	135,111	155,091	168,980
Miles of microwave radio relay, broad band 1-way channel.....	-	7,517	298,091	365,167	422,314	514,220	607,182	728,394
Book value of plant (cost).....	4,887	10,375	24,722	26,587	28,657	30,854	33,385	36,229
Depreciation and amortization reserves.....	1,397	2,905	5,402	5,750	6,126	6,584	7,153	7,794
Operating revenues.....	1,206	3,342	8,111	8,616	9,105	9,796	10,549	11,320
Local exchange.....	811	1,997	4,665	4,921	5,219	5,628	5,779	6,114
Toll.....	361	1,208	3,058	3,284	3,544	3,814	4,291	4,706
Operating expenses ³	913	2,653	5,586	5,905	6,273	6,648	7,233	7,857
Federal income taxes.....	64	248	1,172	1,245	1,360	1,455	1,477	1,466
Interest expense.....	43	115	263	289	314	344	357	371
Net income.....	226	370	1,279	1,355	1,461	1,557	1,744	1,887
Dividends declared ⁴	180	263	770	871	917	934	1,085	1,144
Employees, number.....	282,224	534,751	594,860	581,245	578,403	585,941	604,577	627,278
Wages and salaries.....	522	1,742	3,283	3,291	3,513	3,660	3,890	4,169

- Represents zero.

¹ Beginning 1963, data on revised basis, not fully comparable with prior years.

² Excludes drop and block wire.

³ Includes operating taxes other than Federal income.

⁴ Includes dividends on all minority holdings of preferred and common stocks, but excludes intercompany dividends.

Source: American Telephone and Telegraph Company, New York, N.Y.; compiled from annual reports of A.T. & T. Co., and its principal telephone subsidiaries, and Southern New England and Cincinnati and Suburban Companies, and unpublished data.

No. 729. INDEPENDENT TELEPHONE COMPANIES—SUMMARY: 1940 TO 1964

[Money figures in millions of dollars. As of December 31 or calendar year, as applicable. Includes Puerto Rico beginning 1950; for Alaska excludes 9 of 13 companies in 1960-1962 and 11 of 16 companies in 1963-1964. Covers only those companies submitting operating information to the U.S. Independent Telephone Association; in 1964, reporting companies represented 89 percent of the Independent telephones in service. See also *Historical Statistics, Colonial Times to 1957*, series R 28-42]

ITEM	1940	1950	1955	1960	1961	1962	1963	1964
All companies, number.....	6,400	5,500	4,700	3,300	3,000	2,800	2,700	2,500
Reporting companies, number.....	218	379	406	550	554	601	613	663
Number of telephones (incl. service telephones).....	1,000	2,194	4,922	6,750	9,718	10,294	11,125	12,800
Miles of wire ¹	(NA)	9,176	15,201	28,594	31,586	35,017	40,005	46,049
Telephone plant in service, book value.....	375	878	1,656	3,396	3,820	4,335	4,847	5,452
Depreciation reserves.....	85	203	326	600	690	793	911	1,039
Operating revenues ²	81	270	503	906	994	1,120	1,248	1,386
Local exchange.....	60	171	329	585	640	710	778	849
Toll.....	19	92	155	289	320	372	429	492
Operating expenses ³	61	211	354	630	681	755	835	934
Federal income taxes.....	(NA)	19	61	107	122	138	154	161
Interest expenses.....	6	12	22	58	66	78	88	100
Net income.....	13	29	67	117	133	157	177	201
Dividends declared.....	(NA)	(NA)	43	81	93	103	113	126
Employees.....	1,000	(NA)	63	72	85	86	90	95
Wages and salaries.....	(NA)	(NA)	147	224	359	380	440	485

NA Not available.

¹ Miles of open wire and miles of wire in aerial, underground, and other cable.

² Revenues for the total Independent industry (U.S. and Puerto Rico) including estimates for nonreporting companies, amounted to \$1,020 million in 1960, \$1,127 million in 1961, \$1,253 million in 1962, \$1,375 million in 1963, and \$1,518 million in 1964.

³ Excludes Federal income taxes.

Source: United States Independent Telephone Association, Washington, D.C.; annual report, *Statistics of the Independent Telephone Industry* (copyright).

No. 730. TELEPHONE SYSTEMS—SUMMARY, CLASS A CARRIERS: 1940 TO 1964

[In millions of dollars, except as indicated. Includes Puerto Rico and, beginning 1963, Virgin Islands. Excludes intercompany duplications. Covers class A telephone carriers filing annual reports with FCC. Class A carriers are those whose annual operating revenues exceeded \$100,000 for years prior to 1952, and \$250,000 thereafter; comparability of data relatively unaffected by change in coverage. Gross operating revenues of class A carriers (excluding intercompany duplications of Bell System) reporting in 1964 represented approximately 91 percent of revenues of all telephone carriers as estimated by U.S. Independent Telephone Association]

ITEM	1940	1945	1950	1955	1960	1962	1963	1964
Carriers.....number.....	78	76	71	53	52	60	60	60
Telephones ¹	19,336	24,814	38,525	49,753	65,735	71,542	74,547	78,260
Miles of wire.....	93,688	104,388	147,380	204,879	315,541	356,074	379,211	406,440
Capital investment:								
Book cost of plant.....	5,071	6,057	10,702	16,224	25,714	29,938	32,290	34,960
Depreciation and amortization reserves.....	1,438	2,187	2,979	4,098	5,577	6,348	6,839	7,443
Ratio to book cost.....percent.....	28.35	35.77	27.84	25.26	21.69	21.20	21.18	21.29
Capital stock.....	2,112	2,246	3,195	5,967	8,383	9,139	9,266	9,813
Funded debt.....	1,214	1,389	3,779	4,612	7,720	8,879	9,275	9,448
Earned surplus.....	359	358	446	992	2,625	3,529	4,092	4,697
Dividends declared.....	185	193	270	498	796	954	971	1,126
Income and expenses:								
Operating revenues ²	1,243	2,037	3,445	5,562	8,365	9,515	10,158	10,940
Local service revenues.....	839	1,108	2,058	3,253	4,823	5,412	5,742	6,011
Toll service revenues.....	370	867	1,245	2,049	3,148	3,063	3,952	4,447
Operating expenses.....	812	1,342	2,464	3,704	5,024	5,620	5,955	6,503
Operating ratio ³percent.....	65.33	65.89	71.52	66.60	60.07	59.07	58.63	59.39
Net operating income ⁴	237	274	455	764	1,399	1,677	1,830	1,926
Net income.....	221	191	372	694	1,250	1,438	1,538	1,727
Employees ⁵	1,000	305	398	565	649	603	611	631
Compensation of employees.....	537	936	1,798	2,693	3,384	3,630	3,784	4,023
Annual average.....dollars.....	1,763	2,350	3,182	4,149	5,398	6,020	6,194	6,376

¹ Includes company, service, and private line telephones.

² Includes miscellaneous revenues not shown separately.

³ Ratio of operating expenses, excluding taxes, to operating revenues.

⁴ After tax deductions.

⁵ For 1940, and beginning 1962, as of Dec. 31; 1945 to 1960 as of Oct. 31.

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers*.

No. 731. TELEPHONES IN USE, BY STATES: 1964

[As of December 31]

STATE	TELEPHONES (1,000)					Tele- phones per 100 popula- tion	House- holds with tele- phone service ¹ (percent)	Bell com- panies calls ² (mil.)
	Total	Ownership		Type of service				
		Bell companies	All other	Busi- ness	Resi- dence			
United States	88,787	74,659	14,128	24,716	64,071	46.06	83	117,209
Alabama	1,123	964	159	300	823	32.78	68	1,930
Alaska	59	—	59	25	34	23.41	(NA)	—
Arizona	604	591	13	202	402	37.44	67	881
Arkansas	578	427	151	158	420	29.66	60	747
California	9,983	8,008	1,975	2,979	7,004	54.34	87	12,678
Colorado	972	956	16	296	676	48.87	78	1,414
Connecticut	1,536	1,531	5	411	1,125	54.91	93	1,989
Delaware	265	265	—	74	191	53.32	87	351
District of Columbia	726	726	—	349	377	89.29	88	1,116
Florida	2,603	1,777	826	839	1,764	44.94	75	3,116
Georgia	1,575	1,359	216	437	1,138	36.31	70	2,777
Hawaii	304	—	304	99	205	42.82	80	459
Idaho	260	208	52	71	189	37.51	76	344
Illinois	5,533	4,664	869	1,548	3,985	52.46	88	6,081
Indiana	2,137	1,385	752	546	1,591	44.06	85	2,282
Iowa	1,283	875	408	271	1,012	46.54	95	1,209
Kansas	1,010	829	181	246	764	45.32	89	1,202
Kentucky	1,013	756	257	254	759	31.90	68	1,426
Louisiana	1,275	1,209	66	325	950	36.47	75	2,753
Maine	372	338	34	95	277	37.52	80	453
Maryland	1,661	1,659	2	439	1,222	47.76	87	2,319
Massachusetts	2,747	2,745	2	781	1,966	51.23	93	4,102
Michigan	3,835	3,435	400	973	2,862	47.11	91	5,641
Minnesota	1,651	1,339	312	406	1,245	46.72	93	2,089
Mississippi	574	550	24	148	426	24.68	53	1,081
Missouri	2,067	1,722	345	553	1,514	46.73	85	2,920
Montana	282	238	44	76	206	39.96	79	345
Nebraska	690	394	296	187	503	46.41	86	629
Nevada	208	84	124	87	121	49.37	70	112
New Hampshire	278	264	14	71	207	42.14	86	329
New Jersey	3,558	3,503	55	912	2,646	52.67	89	4,645
New Mexico	371	321	50	133	238	36.44	67	508
New York	10,097	9,369	728	3,088	7,009	55.99	90	13,872
North Carolina	1,514	824	690	410	1,104	30.99	67	1,501
North Dakota	251	173	78	65	186	38.79	84	264
Ohio	4,768	3,719	1,049	1,185	3,583	46.99	88	5,769
Oklahoma	1,071	949	122	306	765	43.27	78	1,619
Oregon	863	692	171	243	620	45.82	85	1,078
Pennsylvania	5,788	4,850	938	1,404	4,384	50.40	89	6,294
Rhode Island	413	413	—	110	303	44.69	85	637
South Carolina	734	550	184	200	534	28.42	62	1,028
South Dakota	268	217	51	65	203	37.30	78	305
Tennessee	1,352	1,150	202	347	1,005	35.35	72	2,527
Texas	4,278	3,576	702	1,274	3,004	40.83	74	6,673
Utah	442	424	18	125	317	44.05	86	819
Vermont	158	139	19	43	115	38.45	82	172
Virginia	1,672	1,346	326	477	1,195	37.74	75	2,140
Washington	1,423	1,133	290	401	1,022	47.51	86	1,787
West Virginia	600	524	76	146	454	33.52	73	872
Wisconsin	1,805	1,341	464	488	1,317	43.72	89	1,749
Wyoming	157	148	9	48	109	45.65	78	195

- Represents zero. NA Not available.

¹ Households with service are the sum of residence main, apartment house PBX and residence service main telephones, and other residence PBX systems. There tends to be a slight overstatement of the proportion of households with telephone service.² Represents the number of completed local calls and completed and uncompleted toll calls originating from company and service telephones of the Bell companies.Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers*, and unpublished data. Data from American Telephone and Telegraph Company.

No. 732. HOUSEHOLDS WITH TELEPHONES: 1958, 1960, AND 1965

[As of March. For 1958, excludes Alaska and Hawaii. Includes members of the Armed Forces living off post or with their families on post; excludes all other Armed Forces and inmates of institutions. Base includes households for which telephone availability was not reported: For 1958, 3.0 percent; for 1960 and 1965, 2.4 percent. Based on sample and subject to sampling variability. For definition of terms used, see pp. 1-3]

AREA AND CHARACTERISTIC	TOTAL HOUSEHOLDS (1,000)			PERCENT OF HOUSEHOLDS WITH TELEPHONE			AREA AND CHARACTERISTIC	PERCENT WITH TELEPHONE		
	1958	1960	1965	1958	1960	1965		1958	1960	1965
Total	50,402	52,799	57,251	72.5	74.8	80.6	REGION ¹			
Primary families.....	43,445	44,905	47,720	74.7	77.0	82.5	Northeast.....	80.8	81.8	86.1
Primary individuals.....	6,957	7,895	9,531	58.6	61.5	71.2	North Central.....	78.2	79.1	86.1
RESIDENCE							South.....	58.3	63.1	70.0
Metropolitan.....	(NA)	(NA)	37,395	80.1	81.4	84.6	West.....	75.7	76.2	81.3
In central cities.....	(NA)	(NA)	19,222	77.7	77.6	81.4	INCOME ²			
Outside central cities.....	(NA)	(NA)	18,173	(NA)	(NA)	88.1	Under \$1,000.....	(NA)	43.5	55.7
Nonmetropolitan.....	(NA)	(NA)	19,856	61.1	64.8	72.6	\$1,000 to \$1,999.....	(NA)	50.3	61.5
Nonfarm.....	(NA)	(NA)	16,883	(NA)	(NA)	73.3	\$2,000 to \$2,999.....	(NA)	57.0	66.7
Farm.....	(NA)	(NA)	2,973	45.5	50.3	68.6	\$3,000 to \$3,999.....	62.0	66.1	70.7
HEAD OF HOUSEHOLD							\$3,500 to \$3,999.....	68.5	65.9	73.4
Male.....	41,487	43,198	46,027	74.5	75.8	81.2	\$4,000 to \$4,999.....	70.9	72.8	74.3
Under 25 years.....	2,082	2,184	2,918	48.5	49.5	58.7	\$4,500 to \$4,999.....	78.4	76.8	76.5
25 to 34 years.....	8,817	8,810	8,912	71.6	75.6	78.3	\$5,000 to \$5,999.....	82.3	82.8	80.7
35 to 44 years.....	9,895	10,297	10,449	78.4	79.7	85.1	\$6,000 to \$6,999.....	86.5	88.4	85.9
45 to 54 years.....	8,892	8,918	9,726	79.5	80.8	85.8	\$7,000 to \$9,999.....	91.5	92.4	92.7
55 to 64 years.....	6,238	6,618	7,290	78.6	78.4	83.7	\$10,000 to \$14,999.....	95.5	95.0	95.6
65 years and over.....	5,563	6,372	6,732	69.1	68.9	79.1	\$15,000 to \$24,999.....	95.9	96.0	96.2
Female.....	8,915	9,601	11,224	63.2	69.9	77.4	\$25,000 and over.....	97.2	92.9	95.4
Under 25 years.....	311	306	484	37.3	50.2	61.5	Median income ³.....	\$5,342	\$5,738	\$7,281
25 to 34 years.....	764	847	984	44.1	58.0	60.2				
35 to 44 years.....	1,159	1,275	1,621	65.7	66.8	75.9				
45 to 54 years.....	1,712	1,770	1,760	66.9	73.1	77.1				
55 to 64 years.....	1,947	1,966	2,279	69.3	75.6	83.3				
65 years and over.....	3,022	3,437	4,196	63.6	70.9	80.6				

NA Not available.

¹ For composition of regions, see fig. I, p. XII.

² Total money income received by primary families and individuals during the preceding calendar year.

³ For definition of median, see table 5.

Source: Dept. of Commerce, Bureau of the Census; *Current Population Reports*, Series P-20, Nos. 95, 111, and 146.

No. 733. RADIO AND OCEAN-CABLE TELEPHONE SERVICE, BY CLASS: 1962 TO 1964

[In thousands. During 1964, 4 class A telephone carriers reporting to FCC furnished service between fixed stations and over ocean cables, 15 furnished marine service, and 36 furnished domestic public land mobile radio services; in addition, service between fixed stations and marine service was furnished by 1 class B telephone carrier and 4 international telegraph carriers, the revenue from which amounted to \$3,049,000, details for which were not reported]

CLASS OF SERVICE	1962		1963		1964	
	Charge-able calls	Gross revenues	Charge-able calls	Gross revenues	Charge-able calls	Gross revenues
FIXED STATIONS AND OCEAN-CABLE						
Message service	5,066	\$63,154	5,495	\$71,204	6,612	\$87,238
Overseas ¹	4,461	61,387	4,825	69,410	5,818	85,277
Bermuda and trans-Atlantic.....	1,571	22,668	1,745	29,039	2,114	37,114
Central and South American and Caribbean.....	1,984	21,927	2,113	22,849	2,455	26,991
Trans-Pacific.....	906	16,792	967	17,522	1,249	22,172
Within Hawaii.....	605	1,767	670	1,794	794	1,961
Private line service, overseas.....	(X)	8,989	(X)	9,735	(X)	12,043
MOBILE STATIONS						
Marine service to mobile stations	640	1,226	658	1,349	691	1,445
General service.....	611	1,200	640	1,330	675	1,422
Dispatching service.....	29	26	18	19	16	23
Domestic public land mobile radio services ²	4,793	7,435	5,191	8,285	(NA)	10,453
General service.....	4,061	6,496	4,465	7,351	(NA)	9,237
Direct dispatching service.....	469	553	439	504	(NA)	510
Signalling or paging service.....	263	386	287	430	(NA)	706
Private mobile radiotelephone systems.....	(X)	1,408	(X)	1,437	(X)	1,345

NA Not available. X Not applicable.

¹ Includes telephone calls between Hawaii and Puerto Rico and conterminous U.S., which are classified as international.

² In addition, this service was furnished by other telephone carriers and by miscellaneous common carriers. As of Dec. 31, 1962, 1963, and 1964, there were, respectively, 474, 493, and 588, such carriers with gross operating revenues of \$5,200,000, \$5,700,000, and \$6,900,000.

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers*.

No. 734. RURAL ELECTRIFICATION ADMINISTRATION—TELEPHONE PROGRAM, SUMMARY OF OPERATIONS: 1950 TO 1965

[Cumulative data cover period from program authorization, October 28, 1949, to December 31 of years shown]

ITEM	1950	1955	1960	1963	1964	1965
Loans approved, cumulative, Dec. 31: ¹						
Borrowers.....	61	415	727	821	841	845
Amount.....mil. dol.....	19	274	737	1,009	1,126	1,200
Route miles of line provided for, cumulative, Dec. 31.....1,000.....	21	179	378	475	502	515
Subscribers provided for, cumulative, Dec. 31.....1,000.....	75	607	1,467	1,883	2,011	2,066
To receive initial service.....1,000.....	45	311	673	929	1,027	1,072
To receive improved service.....1,000.....	29	296	794	955	984	994
Borrowers' operations:						
Borrowers reporting, Dec. 31.....	(NA)	285	695	784	804	² 819
Total subscribers served, Dec. 31.....1,000.....	(NA)	284	1,142	1,523	1,627	² 1,727
Receiving initial service ³1,000.....	(NA)	(NA)	404	620	785	² 757
Dial subscribers served, Dec. 31.....1,000.....	(NA)	(NA)	1,023	1,499	1,617	² 1,717
Receiving initial service ⁴1,000.....	(NA)	(NA)	869	1,289	1,395	² 1,484
Telephones in service, Dec. 31.....1,000.....	(NA)	304	1,280	1,762	1,900	² 2,034
Total operating revenues during year.....mil. dol.....	(NA)	16	94	153	169	² 187
Total telephone plant.....mil. dol.....	(NA)	(NA)	635	956	1,057	² 1,152
Employees.....	(NA)	(NA)	9,672	10,603	11,075	² 11,500

NA, Not available. ¹ Net loans (revisions deducted). ² Preliminary.

³ Subscribers receiving telephone service for first time as result of REA Rural Telephone Program.

⁴ Subscribers receiving dial telephone service for first time as a result of REA Rural Telephone Program. Includes subscribers who previously had manual service.

Source: Dept. of Agriculture, Rural Electrification Administration; *Annual Statistical Report—Rural Telephone Borrowers*.

No. 735. DOMESTIC AND INTERNATIONAL TELEGRAPH CARRIERS—SUMMARY: 1940 TO 1964

[Money figures in thousands of dollars. Figures cover principal carriers filing annual reports with Federal Communications Commission. See also *Historical Statistics, Colonial Times to 1957*, series R 53-65 and R 72-85]

ITEM	1940	1950	1960	1962	1963	1964
DOMESTIC TELEGRAPH						
Number of carriers.....	2	1	1	1	1	1
Book cost of communications plant.....	375,021	294,451	398,023	541,419	596,587	634,636
Depreciation and amortization reserves.....	97,746	128,227	168,005	183,099	198,930	221,783
Revenue messages transmitted ^{1 2}1,000.....	191,645	178,904	124,319	112,487	104,220	97,448
Message revenues.....	97,906	152,248	189,789	181,474	176,654	176,315
Total operating revenues.....	114,587	177,994	262,365	264,119	286,822	299,410
Operating revenue deductions ³	110,856	107,280	240,768	257,139	266,660	278,324
Operating income ⁴	3,731	8,664	11,247	10,709	19,162	22,286
Net income transferred to earned surplus.....	372	7,353	10,205	10,405	⁵ 24,931	16,974
Dividends declared.....	1,045	2,459	8,950	10,484	10,490	10,501
Miles of wire in cable.....1,000.....	449	369	417	412	412	411
Miles of aerial wire.....1,000.....	1,820	929	647	625	598	572
Number of employees ⁶	59,670	40,482	32,655	30,021	28,015	26,607
Total compensation.....	74,736	116,937	164,524	168,278	160,650	161,129
Teletypewriter exchange service messages (TWX), Bell companies.....1,000.....	6,568	14,759	33,340	38,449	41,713	45,261
INTERNATIONAL TELEGRAPH						
Number of carriers.....	13	11	9	9	10	8
Book cost of communications plant.....	142,015	136,168	163,798	163,360	153,465	191,412
Depreciation and amortization reserves.....	81,240	82,757	82,610	72,394	66,939	71,452
Revenue messages transmitted ¹1,000.....	16,619	22,578	28,278	28,568	29,390	31,504
Message revenues.....	29,270	42,470	62,986	61,540	61,978	64,410
Total operating revenues.....	32,087	50,333	86,976	92,372	97,822	107,560
Operating revenue deductions ³	27,035	45,226	76,885	82,104	85,102	91,109
Operating income ⁴	3,693	3,804	5,580	6,185	9,108	11,097
Net income transferred to earned surplus.....	3,598	4,538	7,991	8,118	⁵ 8,638	9,158
Dividends declared.....	1,825	892	1,423	3,620	2,991	3,532
Miles (nautical) of ocean cable.....1,000.....	95	88	71	55	42	38
Miles of wire in non-ocean cable.....1,000.....	8	6	14	11	6	6
Miles of aerial wire.....1,000.....	8	7	6	7	6	6
Number of employees ⁶	8,083	10,759	11,011	10,522	9,968	9,041
Total compensation.....	12,809	30,240	47,636	50,551	51,905	53,131

¹ Beginning 1950, press messages included on unequated basis; equated basis for 1940.

² Principally as estimated by reporting carriers on basis of actual counts for test periods.

³ Includes depreciation and operating taxes.

⁴ After recorded provision for Federal income taxes including those on noncommunications activities.

⁵ Includes for international telegraph an extraordinary charge of \$18,336,800 incident to transfer of ownership of Western Union cables. This was partially offset for domestic telegraph by a related extraordinary credit of \$8,250,000. ⁶ 1940, end of December; thereafter, end of October.

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers* (prior to 1957 titled *Statistics of the Communications Industry in the United States*).

No. 736. COMMUNICATIONS RATES BETWEEN NEW YORK CITY AND SELECTED CITIES: 1919 TO 1966

[See also *Historical Statistics, Colonial Times to 1957*, series R 68-71 and R 86-89]

EFFECTIVE DATE	BETWEEN NEW YORK CITY AND—				EFFECTIVE DATE	BETWEEN NEW YORK CITY AND—			
	Phila- delphia	Chicago	Denver	San Fran- cisco		London	Cairo	Tokyo	Buenos Aires
TELEGRAPH RATES ¹					INTERNATIONAL CABLE AND RADIO- TELEGRAPH RATES ⁴				
1919, Apr. 1.....	\$0.30	\$0.60	\$0.90	\$1.20	1940.....	\$0.20	\$0.42	\$0.72	\$0.42
1946, Dec. 29.....	.36	.72	1.08	1.44	1945, May 1.....	.20	.42	.24	.20
1950, Feb. 1.....	.40	.75	1.25	1.45	1948, Apr. 28.....	.25	.30	.30	.28
1954, July 15.....	.85	1.25	1.70	1.70	1949, Feb. 2.....	.25	.40	.40	.35
1956, Aug. 26.....	.95	1.30	1.75	1.75	1950, July 1.....	.19	.30	.30	.27
1958, Aug. 1.....	1.05	1.40	1.85	1.85	1953, Aug. 1.....	.21	.34	.34	.31
1960, Oct. 17.....	1.10	1.45	1.90	1.90	In effect Jan. 1, 1966..	.21	.34	.34	.31
1963, July 10.....	1.20	1.60	2.10	2.10					
1966, Jan. 1.....	1.24	1.65	2.16	2.16					
In effect Jan. 1, 1966..	1.24	1.65	2.16	2.16					
TELETYPEWRITER EXCHANGE SERVICE (TWX) RATES ²					INTERNATIONAL TELEPHONE RATES ³				
931, Nov. 21 ³35	1.10	1.80	2.40	1940.....	21.00	30.00	19.50	15.00
1946, Feb. 1.....	.35	1.05	1.55	1.75	1944.....	21.00	30.00	19.50	12.00
1953, July 1.....	.45	1.20	1.65	1.75	1945.....	12.00	30.00	19.50	12.00
1960, Feb. 7.....	.45	1.15	1.65	1.75	1946.....	12.00	12.00	12.00	12.00
In effect Jan. 1, 1966..	.45	1.15	1.65	1.75	In effect Jan. 1, 1966..	12.00	12.00	12.00	12.00

¹ Beginning Sept. 1, 1951, minimum charge for 15 text words or less; prior to that, for 10 text words or less.

² For 3 minutes or less, 2-way, telephone company rates. Since 1959, the telegraph company has offered similar service called "Telex" with a different rate structure. ³ Beginning of service.

⁴ Per plain language telegraph-word including address and signature.

⁵ For person-to-person, 3-minute call. Station-to-station service available to Tokyo beginning June 18, 1964, with a 3-minute initial period rate of \$9.00.

Source: Federal Communications Commission; unpublished data.

No. 737. BROADCAST AND OTHER STATIONS AUTHORIZED AND OPERATORS LICENSED, BY CLASS: 1955, 1960, AND 1965

[As of June 30. Includes Puerto Rico and Virgin Islands. See also *Historical Statistics, Colonial Times to 1957*, series R 90-94 and R 120-126]

CLASS OF STATION OR OPERATOR	1955	1960	1965	CLASS OF STATION OR OPERATOR	1955	1960	1965
Safety and special radio services ¹	300,227	651,993	1,456,911	Broadcast services ²	6,257	11,179	18,544
Amateur and disaster services.....	142,387	228,206	280,343	Commercial A.M.....	2,840	3,581	4,097
Citizens.....	12,334	126,034	744,713	Commercial TV.....	582	663	689
Aviation services.....	43,855	91,180	109,897	Educational TV.....	34	64	125
Aircraft.....	30,228	72,017	86,826	TV translator.....	(NA)	302	2,023
Aeronautical and fixed.....	2,082	3,942	5,071	Auxiliary TV.....	516	1,093	1,688
Civil air patrol.....	11,108	14,432	16,873	Experimental TV.....	15	24	25
Other.....	437	789	1,122	Commercial FM.....	552	912	1,565
Industrial services.....	24,854	64,804	141,360	Educational FM.....	127	181	272
Power.....	8,132	12,427	15,504	International.....	(NA)	5	3
Business.....	-	19,161	73,915	Remote pickup.....	1,546	4,279	7,748
Petroleum.....	6,178	8,591	10,075	Studio transmitter link.....	43	65	143
Forest products.....	1,144	1,876	2,781	Other.....	2	20	166
Special industrial.....	8,190	21,901	35,805	Common carrier services	1,948	4,386	10,015
Other.....	1,210	848	3,280	Experimental.....	1,175	-	-
Land transportation services.....	7,668	11,452	15,635	Point to point micro-wave.....	-	2,379	4,534
Railroad.....	1,405	3,065	5,260	Local TV transmission.....	-	77	77
Taxicab.....	4,526	4,935	4,796	Rural radio.....	-	473	498
Interurban property.....	-	1,861	2,786	Developmental.....	-	51	110
Other.....	1,737	1,591	2,793	Domestic public land mobile ¹	724	1,350	4,710
Marine services.....	50,714	97,411	114,075	Fixed public teleg.-tel.....	-	-	9
Ship.....	49,594	95,626	111,690	International control-fixed.....	-	-	8
Alaskan.....	786	1,240	1,674	Fixed public telephone.....	19	12	8
Coastal and other.....	394	545	711	Fixed public telegraph.....	30	44	11
Public safety services.....	18,415	32,906	50,888	Experimental services, miscellaneous	625	728	747
Police.....	9,725	14,039	17,156	Radio operators	1,123,125	2,154,402	2,970,718
Fire.....	2,357	5,935	10,121	Commercial operators.....	986,363	1,947,368	2,711,837
Forestry conservation.....	2,967	3,667	5,334	Amateur operators.....	136,762	207,034	268,881
Highway maintenance.....	1,330	3,582	4,747				
Special emergency.....	1,839	3,994	6,166				
Other.....	217	1,689	7,364				

- Represents zero. NA Not available.

¹ Each license, construction permit, or combination construction permit and license is counted as one station; therefore, a station might include a transmitter and many mobile units.

² Stations licensed or holding construction permits.

Source: Federal Communications Commission; *Annual Report*, and unpublished data.

No. 738. COMMERCIAL BROADCAST STATIONS AUTHORIZED AND ON THE AIR: 1945 TO 1966

[As of January 1. Includes Puerto Rico, Virgin Islands, and beginning 1956, Guam. Figures differ from those shown in table 739 because of different tabulations. See *Historical Statistics, Colonial Times to 1957*, series R 90-94, for number of operating stations]

YEAR	TOTAL		AM RADIO		FM RADIO		TELEVISION	
	Author-ized	On the air	Author-ized	On the air	Author-ized	On the air	Author-ized	On the air
1945.....	969	936	908	884	52	46	9	6
1948.....	3,010	1,977	1,927	1,586	1,010	374	73	17
1949.....	3,182	2,627	2,092	1,877	966	700	124	50
1950.....	3,098	2,881	2,199	2,051	788	733	111	97
1951.....	3,129	2,981	2,317	2,198	703	676	109	107
1952.....	3,132	3,042	2,374	2,297	650	637	108	108
1953.....	3,393	3,098	2,490	2,357	630	616	273	125
1954.....	3,738	3,396	2,602	2,487	580	560	556	349
1955.....	3,864	3,599	2,740	2,635	559	553	565	411
1956.....	4,044	3,772	2,901	2,790	557	540	586	442
1957.....	4,275	3,975	3,091	2,974	554	530	630	471
1958.....	4,503	4,185	3,256	3,156	590	537	657	492
1959.....	4,762	4,374	3,401	3,287	695	578	666	509
1960.....	4,993	4,611	3,487	3,416	838	678	668	517
1961.....	5,269	4,858	3,627	3,507	1,018	821	624	530
1962.....	5,558	5,158	3,788	3,653	1,128	960	642	545
1963.....	5,749	5,407	3,884	3,770	1,218	1,081	647	556
1964.....	5,898	5,606	3,994	3,897	1,249	1,146	655	563
1965.....	6,169	5,814	4,040	3,972	1,468	1,270	661	572
1966.....	6,477	6,057	4,129	4,025	1,657	1,446	691	586

Source: Federal Communications Commission; annual releases, *AM-FM Broadcast Financial Data*, *TV Broadcast Financial Data*, and unpublished data.

No. 739. COMMERCIAL BROADCAST STATIONS ON THE AIR—STATES AND OTHER AREAS: JANUARY 1, 1965

STATE OR OTHER AREA	Total	AM	FM	TV	STATE OR OTHER AREA	Total	AM	FM	TV
Total.....	5,743	3,970	1,201	572	Montana.....	53	41	4	8
United States.....	5,681	3,930	1,189	562	Nebraska.....	64	41	10	13
Alabama.....	162	122	27	13	Nevada.....	27	18	4	5
Alaska.....	25	15	2	8	New Hampshire.....	31	22	8	1
Arizona.....	77	57	12	8	New Jersey.....	52	31	21	-
Arkansas.....	98	77	15	6	New Mexico.....	63	50	7	6
California.....	373	223	116	34	New York.....	240	149	66	25
Colorado.....	87	64	13	10	North Carolina.....	249	179	56	14
Connecticut.....	56	37	14	5	North Dakota.....	32	22	-	10
Delaware.....	13	10	3	-	Ohio.....	215	107	87	21
Dist. of Columbia.....	17	6	6	5	Oklahoma.....	85	61	15	9
Florida.....	239	181	41	17	Oregon.....	103	80	11	12
Georgia.....	189	156	23	10	Pennsylvania.....	257	163	75	19
Hawaii.....	35	23	2	10	Rhode Island.....	23	15	5	3
Idaho.....	48	39	3	6	South Carolina.....	119	91	18	10
Illinois.....	197	118	59	20	South Dakota.....	38	26	2	10
Indiana.....	138	76	45	17	Tennessee.....	171	126	31	14
Iowa.....	94	68	14	12	Texas.....	389	272	71	46
Kansas.....	82	58	12	12	Utah.....	37	30	4	3
Kentucky.....	120	93	20	7	Vermont.....	18	16	1	1
Louisiana.....	108	86	10	12	Virginia.....	162	114	37	11
Maine.....	43	32	5	6	Washington.....	129	92	24	13
Maryland.....	75	46	25	4	West Virginia.....	75	56	10	9
Massachusetts.....	98	60	29	9	Wisconsin.....	137	87	36	14
Michigan.....	182	115	51	16	Wyoming.....	33	29	1	3
Minnesota.....	98	78	10	10	Puerto Rico.....	55	36	11	8
Mississippi.....	96	83	5	8	Guam.....	2	1	-	1
Missouri.....	129	89	23	17	Virgin Islands.....	5	3	1	1

- Represents zero.

Source: Federal Communications Commission; annual releases, *AM-FM Broadcast Financial Data*, and *TV Broadcast Financial Data*, and unpublished data.

No. 740. RADIO BROADCAST INDUSTRY FINANCES: 1950 TO 1964

[Money figures in millions of dollars. Includes Puerto Rico and Virgin Islands. Excludes FM (independents). See also headnote, table 742. See *Historical Statistics, Colonial Times to 1957*, series R 103-107, for data including FM (independents)]

ITEM	1950	1955	1960	1961	1962	1963	1964
Number of networks, Dec. 31.....	7	7	4	4	4	4	4
Number of stations, Dec. 31.....	2,143	2,704	3,470	3,654	3,772	3,904	3,970
Broadcast revenues.....	443	452	592	584	627	670	719
4 networks (incl. owned and operated stations) ¹	111	78	63	62	64	69	71
Other stations.....	333	374	529	522	563	601	648
Broadcast expenses of networks and stations.....	372	406	544	552	580	612	645
4 networks (incl. owned and operated stations) ¹	92	72	66	61	62	63	66
Other stations.....	281	334	478	490	518	549	579
Broadcast income before Federal income tax.....	71	46	48	32	47	58	73
4 networks (incl. owned and operated stations) ¹	19	6	-3	(Z)	2	6	4
Other stations.....	52	40	51	32	45	52	69
BROADCAST REVENUES							
Revenues from time sales, net.....	401	411	556	551	593	635	682
Commissions to regularly established agencies, representatives, brokers and others.....	53	40	67	66	72	77	82
Revenues from time sales.....	454	457	623	617	665	712	764
Revenues from network time sales, net.....	132	64	35	36	37	42	44
Revenues from non-network time sales to:							
National and regional advertisers and sponsors.....	119	120	202	197	208	220	232
Local advertisers and sponsors.....	203	272	385	384	420	450	488
Revenues from incidental broadcast activities.....	42	41	36	33	33	35	37
Talent.....	25	27	23	19	19	20	21
Sundry broadcast revenues.....	17	15	13	13	14	15	16

Z Less than \$500,000. ¹ Beginning 1960, covers the operations of 7 nationwide networks and their owned and operated stations. Excludes regional networks.

Source: Federal Communications Commission; annual release, *AM-FM Broadcast Financial Data*.

No. 741. TELEVISION BROADCAST INDUSTRY FINANCES: 1950 TO 1964

[Money figures in millions of dollars. Includes Puerto Rico and Virgin Islands. See also headnote, table 742. See also *Historical Statistics, Colonial Times to 1957*, series R 114-117]

ITEM	1950	1955	1959	1960	1961	1962	1963	1964
Number of networks, Dec. 31.....	4	4	3	3	3	3	3	3
Number of stations, Dec. 31.....	107	437	519	530	540	554	565	576
Broadcast revenues.....	106	745	1,164	1,269	1,318	1,486	1,597	1,793
3 networks (incl. owned and operated stations) ¹	56	374	576	641	675	754	820	929
Other stations.....	50	371	588	628	643	732	777	865
Broadcast expenses of networks and stations.....	115	595	942	1,025	1,081	1,175	1,254	1,378
3 networks (incl. owned and operated stations) ¹	66	306	488	546	588	643	684	772
Other stations.....	50	289	453	479	493	532	570	606
Broadcast income before Federal income tax.....	9	150	222	244	237	312	343	416
3 networks (incl. owned and operated stations) ¹	10	68	88	95	87	111	136	157
Other stations.....	1	82	134	149	150	200	207	259
BROADCAST REVENUES								
Revenues from time sales, net.....	76	572	890	952	962	1,083	1,158	1,286
Commissions to regularly established agencies, representatives, brokers and others.....	14	109	180	195	198	220	236	264
Revenues from time sales.....	91	681	1,071	1,147	1,160	1,304	1,395	1,550
Revenues from network time sales, net.....	35	309	446	472	480	522	538	563
Revenues from non-network time sales to:								
National and regional advertisers and sponsors.....	25	222	424	459	469	540	601	690
Local advertisers and sponsors.....	30	150	201	216	211	243	256	297
Revenues from incidental broadcast activities.....	30	172	274	317	356	403	439	507
Talent.....	15	113	197	234	287	323	357	422
Sundry broadcast revenues.....	14	60	77	82	70	80	82	85

¹ 4 networks prior to Sept. 15, 1955, when DuMont ceased network operations.

² Loss.

Source: Federal Communications Commission; annual release, *TV Broadcast Financial Data*.

No. 742. BROADCAST REVENUES OF ALL NETWORKS AND STATIONS: 1945 TO 1964

[Includes Puerto Rico and Virgin Islands. Total broadcast revenues are defined as total time sales of all networks and stations, less commissions to agencies and plus incidental revenues, such as sale of talent and program material. See also *Historical Statistics, Colonial Times to 1957*, series R 104-105 and R 114-115]

YEAR	TOTAL		AM AND AM-FM		FM (INDEPENDENTS)		TV	
	Stations (Dec. 31)	Revenues (\$1,000)	Stations (Dec. 31)	Revenues ¹ (\$1,000)	Stations (Dec. 31)	Revenues (\$1,000)	Stations (Dec. 31)	Revenues ² (\$1,000)
1945.....	912	299, 715	901	299, 338	5	39	6	338
1950.....	2, 336	550, 395	2, 143	443, 058	86	1, 422	107	105, 915
1955.....	3, 179	1, 198, 066	2, 704	452, 338	38	1, 013	437	744, 714
1960.....	4, 218	1, 866, 304	3, 470	591, 863	218	5, 814	530	1, 268, 627
1961.....	4, 399	1, 909, 071	3, 616	583, 612	249	7, 139	540	1, 318, 320
1962.....	4, 532	2, 122, 300	3, 698	625, 800	279	9, 300	555	1, 486, 200
1963.....	4, 691	2, 278, 300	3, 832	669, 700	294	11, 400	565	1, 597, 200
1964.....	4, 777	2, 525, 286	3, 896	719, 186	306	12, 800	575	1, 793, 300

¹ Includes 4 nationwide networks and, prior to 1959, 3 regional networks.

² Includes 4 TV networks beginning in 1948 when commercial TV network operation started; covers 3 networks after Sept. 15, 1955, when DuMont ceased network operations.

Source: Federal Communications Commission; annual releases, *AM-FM Broadcast Financial Data*, and *TV Broadcast Financial Data*.

No. 743. PERCENT OF HOUSEHOLDS WITH TELEVISION SETS, 1955, 1960, AND 1965

[For composition of regions, see figure I, p. XII; for definition of standard metropolitan statistical areas, see text p. 1 (1955 and 1960 data refer to 168 SMSA's as constituted in 1950; 1965 data to 212 SMSA's as constituted in 1960). See *Historical Statistics, Colonial Times to 1957*, series R 98, for number of families with TV]

ITEM	June ¹ 1955	May 1960	August 1965	ITEM	June ¹ 1955	May 1960	August 1965
Households having 1 set or more.....	67	88	92	By region and division—Con			
By area:				South.....	53	82	90
Inside SMSA's.....	78	91	94	South Atlantic.....	(NA)	84	91
Outside SMSA's.....	50	82	80	East South Central.....	(NA)	78	87
By region and division:				West South Central.....	(NA)	81	89
Northeast.....	80	92	94	West.....	62	87	92
New England.....	(NA)	93	94	Mountain.....	(NA)	83	90
Middle Atlantic.....	(NA)	92	94	Pacific.....	(NA)	88	93
North Central.....	72	89	94	By number of sets:			
East North Central.....	(NA)	90	95	No set.....	33	12	8
West North Central.....	(NA)	87	92	1 set.....	65	77	73
				2 sets or more.....	2	11	20

NA Not available. ¹ Excludes Alaska and Hawaii.

Source: Dept. of Commerce, Bureau of the Census; *Current Housing Reports*, Series H-121.

No. 744. NEWSPRINT CONSUMPTION, NEWSPAPER PAGES PER ISSUE, AND CIRCULATION PER FAMILY: 1945 TO 1965

[Prior to 1960, excludes Alaska and Hawaii]

YEAR	NEWSPRINT CONSUMPTION (1,000 tons)						NEWSPAPER PAGES PER ISSUE ²		NEWSPAPER CIRCULATION PER FAMILY	
	Total ¹	By newspapers ²				Daily	Sun-day	Daily	Sun-day	
		Total	Advertising		Other content					
			Amount	Per-cent	Amount					Per-cent
1945.....	3, 451	3, 237	1, 667	51.5	1, 570	48.5	22	70	1. 28	1. 06
1950.....	5, 863	5, 521	3, 279	59.4	2, 242	40.6	36	112	1. 23	1. 06
1955.....	6, 484	6, 173	3, 827	62.0	2, 346	38.0	40	132	1. 16	0. 97
1960.....	7, 326	6, 813	4, 156	61.0	2, 657	39.0	43	142	1. 12	0. 91
1961.....	7, 358	6, 843	4, 126	60.3	2, 717	39.7	43	139	1. 11	0. 90
1962.....	7, 412	6, 893	4, 205	61.0	2, 688	39.0	45	145	1. 10	0. 90
1963.....	7, 577	7, 047	4, 313	61.2	2, 734	38.8	46	148	1. 08	0. 87
1964.....	8, 092	7, 526	4, 644	61.7	2, 882	38.3	47	154	1. 07	0. 87
1965.....	8, 357	7, 772	4, 858	62.5	2, 914	37.5	50	167	1. 05	0. 85

¹ Apparent consumption; equals production plus imports minus exports adjusted for year-end change in newspaper publishers' inventories and domestic mill stocks.

² Based on information of Media Records, Inc., for 52 cities.

³ Based on information of Newsprint Service Bureau, average in 39 cities.

Source: Dept. of Commerce, Business and Defense Services Administration; unpublished data.

No. 745. NEWSPAPERS—CIRCULATION AND RECEIPTS: 1958 AND 1963

[Circulation in thousands; receipts in millions of dollars. See also *Historical Statistics, Colonial Times to 1957*, series R 173-182]

TYPE OF PUBLICATION	1958		1963		TYPE OF PUBLICATION	1958		1963	
	Circulation per issue	Total receipts	Circulation per issue	Total receipts		Circulation per issue	Total receipts	Circulation per issue	Total receipts
Total.....	(X)	3,458	(X)	4,255	Receipts, daily and Sunday newspapers—Continued				
Receipts, daily and Sunday newspapers	(X)	3,125	(X)	3,792	Morning and evening ¹	(X)	21	(X)	27
From subscription and sales.....	(X)	917	(X)	1,064	Morning, evening, and Sunday.....	(X)	725	(X)	863
Morning ¹	1,908	33	2,354	39	Receipts, weekly and other newspapers..	(X)	208	(X)	379
Evening ¹	13,225	151	13,826	179	From subscription and sales.....	(X)	63	(X)	83
Morning and Sunday.....	29,523	227	31,194	258	Weekly ²	29,828	54	(?)	70
Evening and Sunday.....	26,489	205	31,326	255	Other ³	3,651	9	(?)	13
Morning and evening ¹	619	9	717	10	From advertising.....	(X)	235	(X)	296
Morning, evening, and Sunday.....	35,227	292	36,052	323	Weekly ²	(X)	195	(X)	219
From advertising.....	(X)	2,209	(X)	2,728	Other ³	(X)	41	(X)	77
Morning ¹	(X)	55	(X)	75	Newspapers not specified by frequency and receipts undistributed.....	(X)	35	(X)	84
Evening ¹	(X)	410	(X)	495					
Morning and Sunday.....	(X)	497	(X)	619					
Evening and Sunday.....	(X)	500	(X)	649					

X Not applicable. ¹ No Sunday editions. ² Includes those issued on Sunday only. ³ Not shown because this information was not reported by many small newspapers. However, based on the yearly subscription rate for these reporting circulation it is estimated that the aggregate average circulation per issue for weekly newspapers would be approximately 17,500,000 and newspapers other than daily and weekly, approximately 3,600,000. ⁴ Includes newspapers issued more than one but less than four times a week, and those issued less frequently than once a week.

Source: Dept. of Commerce, Bureau of the Census; 1963 *Census of Manufactures*, Series MC 63(P)-27A-1.

No. 746. PERIODICALS—CIRCULATION AND RECEIPTS: 1958 AND 1963

[Circulation in thousands; receipts in millions of dollars. See also *Historical Statistics, Colonial Times to 1957*, series R 183-186]

TYPE OF PUBLICATION AND RECEIPTS	1958		1963		TYPE OF PUBLICATION AND RECEIPTS	1958		1963	
	Circulation per issue	Total receipts	Circulation per issue	Total receipts		Circulation per issue	Total receipts	Circulation per issue	Total receipts
Total.....	408,364	1,639	427,915	2,037	General:				
Farm periodicals:					Receipts from subscriptions and sales.....	241,741	343	238,955	459
Receipts from subscription and sales.....	18,850	11	14,305	8	Comics.....	63,035	21	27,594	11
General.....	14,872	8	12,087	7	Women and home services.....	70,729	74	93,401	110
Specialized.....	3,978	3	2,218	2	General entertainment.....	98,378	211	102,501	279
Receipts from advertising.....	(X)	55	(X)	46	General news.....	7,780	29	13,913	40
Specialized:					Business news.....	1,819	8	(X)	13
Receipts from subscription and sales.....	51,577	86	32,712	123	Not specified.....	(X)	(X)	(X)	6
Industrial, engineering, tech.....	11,399	30	12,113	31	Advertising receipts.....	(X)	544	(X)	711
Merchandising.....	4,686	7	(S)	20	Comics.....	(X)	1	(X)	(Z)
Professional, institutional, serv.....	35,492	49	(S)	56	Women and home services.....	(X)	133	(X)	204
Not specified.....	(X)	(X)	(X)	15	General entertainment.....	(X)	319	(X)	330
Advertising receipts.....	(X)	294	(X)	413	General news.....	(X)	73	(X)	106
Industrial, engineering, tech.....	(X)	182	(X)	216	Business news.....	(X)	18	(X)	15
Merchandising.....	(X)	66	(X)	106	Not specified.....	(X)	(X)	(X)	5
Professional, institutional, serv.....	(X)	47	(X)	65	Other periodicals, receipts.....	96,196	265	141,943	230
Not specified.....	(X)	(X)	(X)	25	Periodicals, not specified by kind.....	(X)	40	(X)	48

X Not applicable. Z Less than \$500,000. S Does not meet publication standards.

Source: Dept. of Commerce, Bureau of the Census; 1963 *Census of Manufactures*, Series MC 63(P)-27A-2.

No. 747. DAILY AND SUNDAY NEWSPAPERS—NUMBER AND CIRCULATION, 1940 TO 1965, AND BY STATES, 1965

[Circulation in thousands. As of October 1, except number of newspapers for 1964, as of January 1, 1965; for 1965, as of January 1, 1966. Prior to 1960, excludes Alaska and Hawaii. For English language newspapers only. See also *Historical Statistics, Colonial Times to 1957*, series R 169-172]

YEAR AND STATE	DAILY NEWSPAPERS						SUNDAY NEWS-PAPERS	
	Total		Morning		Evening		Num-ber	Net paid circula-tion
	Num-ber	Net paid circula-tion	Num-ber	Net paid circula-tion	Num-ber	Net paid circula-tion		
1940.....	1,878	41,132	380	16,114	1,498	25,018	525	32,371
1945.....	1,749	48,384	330	19,240	1,419	29,144	485	39,850
1950.....	1,772	53,829	322	21,266	1,450	32,563	549	46,582
1955.....	1,760	56,147	316	22,183	1,454	33,964	541	46,448
1960.....	1,763	58,882	312	24,029	1,459	34,853	563	47,699
1961.....	1,761	59,261	312	24,094	1,458	35,167	558	48,216
1962.....	1,760	59,480	318	24,563	1,451	35,286	558	48,888
1963.....	1,754	58,905	311	23,459	1,453	35,446	550	46,830
1964.....	1,763	60,412	323	24,365	1,452	36,048	561	48,383
1965								
United States ²	1,751	60,358	320	24,107	1,444	36,251	562	48,600
Alabama.....	23	734	7	242	16	492	15	602
Alaska.....	6	64	1	17	5	47	2	19
Arizona.....	14	380	3	192	11	188	4	295
Arkansas.....	34	413	5	161	29	252	11	333
California.....	128	5,467	19	1,913	109	3,544	32	4,497
Colorado.....	26	660	4	239	22	421	9	687
Connecticut.....	25	873	6	257	19	616	6	512
Delaware.....	3	142	1	41	2	101	-	-
District of Columbia.....	3	966	1	444	2	521	2	904
Florida.....	47	1,780	15	1,099	32	681	30	1,662
Georgia.....	31	966	6	419	25	547	12	853
Hawaii.....	6	218	2	74	4	144	2	163
Idaho.....	14	168	5	78	10	80	5	125
Illinois.....	183	3,863	10	1,912	74	1,951	19	3,044
Indiana.....	88	1,643	11	483	77	1,161	17	1,061
Iowa.....	43	969	4	301	41	668	9	857
Kansas.....	52	667	6	236	47	421	14	422
Kentucky.....	128	762	6	314	24	438	12	546
Louisiana.....	21	745	5	370	16	375	11	632
Maine.....	9	257	5	202	4	55	1	106
Maryland.....	12	760	4	226	8	525	3	689
Massachusetts.....	47	2,326	6	996	42	1,330	9	1,570
Michigan.....	53	2,353	1	509	52	1,844	11	2,040
Minnesota.....	30	1,093	5	399	25	694	7	1,002
Mississippi.....	21	321	5	98	16	223	8	184
Missouri.....	52	1,811	6	759	46	1,052	14	1,533
Montana.....	16	184	4	122	12	63	9	172
Nebraska.....	19	482	3	169	16	313	5	361
Nevada.....	7	126	2	46	5	80	4	110
New Hampshire.....	19	139	1	27	9	112	1	46
New Jersey.....	30	1,686	7	446	23	1,241	6	1,056
New Mexico.....	19	197	2	60	17	137	13	174
New York.....	185	7,787	19	4,035	67	3,752	16	7,336
North Carolina.....	47	1,187	9	579	38	608	16	836
North Dakota.....	11	176	3	45	8	132	2	96
Ohio.....	296	3,396	8	878	88	2,518	16	2,140
Oklahoma.....	52	864	8	422	44	442	41	729
Oregon.....	21	637	3	276	18	361	5	501
Pennsylvania.....	116	4,025	27	1,273	92	2,752	12	3,262
Rhode Island.....	7	313	1	67	6	247	2	210
South Carolina.....	17	527	8	372	9	155	7	409
South Dakota.....	12	160	1	3	11	157	4	120
Tennessee.....	29	1,072	7	498	22	574	11	833
Texas.....	113	3,062	22	1,361	91	1,700	81	2,855
Utah.....	5	258	1	109	4	150	4	252
Vermont.....	8	95	2	57	6	38	1	13
Virginia.....	32	982	10	452	22	530	12	657
Washington.....	24	976	5	315	19	691	11	869
West Virginia.....	30	487	9	235	21	252	9	373
Wisconsin.....	37	1,184	3	248	34	935	7	840
Wyoming.....	10	70	6	37	4	32	2	22

- Represents zero. ¹ Adjusted to account for all-day papers listed in morning and evening figures (circulations divided between them).

² Adjusted to allow for duplication of Texarkana, Ark.-Tex., and Bristol, Tenn.-Va., papers in individual State tabulations (circulations divided between States); for Covington, Ky., papers also included in Ohio; and for Pascagoula, Miss., papers included in Alabama.

Source: Editor and Publisher, New York, N. Y.; *International Year Book Number, 1966*.

**NO. 748. BOOKS AND PAMPHLETS—QUANTITY SOLD AND VALUE OF RECEIPTS:
1954, 1958, AND 1963**

[1954, excludes Alaska and Hawaii. Includes number of copies sold and dollar receipts reported not only by establishments classified in the "Books, publishing and printing" industry but also by establishments reporting these receipts as "secondary" activities in other industries]

TYPE OF PUBLICATION	1954		1958		1963	
	Copies sold (1,000)	Receipts (\$1,000)	Copies sold (1,000)	Receipts (\$1,000)	Copies sold (1,000)	Receipts (\$1,000)
Total	(X)	665, 419	(X)	1, 010, 713	(X)	1, 547, 788
All books	(X)	¹ 628, 551	(X)	959, 429	(X)	¹ 484, 325
Textbooks.....	(X)	180, 279	(X)	281, 572	(X)	² 471, 100
Elementary, grades 1-8:						
Hardbound.....	40, 541	57, 365	47, 549	76, 632	54, 911	112, 689
Paperbound.....	23, 037	10, 242	26, 778	11, 603	38, 464	21, 668
High school, grades 9-12:						
Hardbound.....	15, 627	31, 927	23, 057	58, 191	32, 891	97, 811
Paperbound.....	2, 587	2, 118	2, 533	2, 024	9, 359	8, 849
College, grades 13 and over: ³						
Hardbound.....	14, 538	50, 241	19, 554	81, 377	24, 175	131, 725
Paperbound.....	1, 286	1, 484	3, 095	2, 767	9, 291	14, 867
Workbooks, paperbound.....	⁴ 59, 373	⁴ 26, 902	76, 572	40, 300	106, 315	61, 050
Standardized tests, paperbound ⁵	(⁶)	(⁶)	97, 049	8, 678	137, 316	19, 828
Subscription reference books, hardbound ⁷	25, 860	89, 825	44, 870	163, 569	35, 727	207, 338
Technical, scientific, and professional books.....	(X)	63, 635	(X)	116, 021	(X)	² 156, 342
Law, designed for the profession.....			3, 702	36, 400	6, 498	57, 584
Medical, designed for the profession ⁸	19, 217	63, 635	2, 423	21, 400	4, 096	24, 148
Business, nonfiction, for adults.....			2, 080	9, 400	1, 242	5, 592
Other.....			15, 596	48, 821	29, 555	63, 015
Religious books.....	(X)	22, 173	(X)	58, 643	(X)	² 81, 120
Hardbound and paperbound:						
Bibles, complete editions.....	11, 359	19, 125	8, 903	18, 318	8, 482	23, 271
Testaments.....			10, 181	4, 746	6, 820	3, 150
Hymnals and devotionals ⁹			5, 103	8, 064	4, 658	8, 201
Other, fiction or nonfiction: ¹⁰						
Hardbound.....	(NA)	(NA)	9, 815	15, 999	16, 916	31, 296
Paperbound.....	(NA)	(¹¹)	36, 776	11, 516	22, 521	12, 599
General books, trade, etc.....	(X)	220, 001	(X)	274, 739	(X)	² 458, 152
Book club books, hardbound and paperbound.....	(¹²)	(¹²)	65, 180	95, 684	75, 749	143, 418
Wholesaled paperbound books, digest size ¹³	(¹⁴)	(¹⁴)	232, 585	47, 680	241, 449	60, 543
Adult trade books, fiction or nonfiction: ¹⁵						
Hardbound.....	¹² 86, 314	¹² 133, 117	32, 298	64, 669	40, 213	108, 515
Paperbound.....	¹⁴ 188, 239	¹⁴ 36, 049	5, 661	5, 374	48, 874	34, 485
Juvenile, fiction and nonfiction: ¹⁵						
\$1.00 and over retail.....	220, 114	50, 835	34, 321	40, 218	55, 056	72, 678
Under \$1.00 retail.....			137, 750	21, 114	120, 520	31, 257
Other books:						
Hardbound.....	5, 453	15, 489	(S)	52, 148	(S)	84, 402
Paperbound.....	38, 366	¹¹ 23, 316	25, 925	12, 737	41, 358	25, 871
Pamphlets	(X)	⁶ 25, 094	(X)	31, 118	(X)	37, 964
Religious.....			(S)	11, 668	(S)	5, 040
Other.....	⁸ 267, 088	⁸ 25, 094	(S)	19, 450	(S)	32, 924
Books and pamphlets, not specified by kind	(X)	11, 774	(X)	20, 166	(X)	25, 499

NA Not available. S Does not meet publication standards. X Not applicable.

¹ Detail will not add to total owing to differences in the reporting of individual establishments.

² Includes receipts not specified by kind, as follows (in thousands of dollars): Textbooks, 3,113; technical, scientific and professional, 6,203; religious, 2,603; general, 7,256.

³ Includes private business and secretarial school, post high vocational schools, and institutes and training courses of college grade.

⁴ Includes 4,621,000 hardbound books; receipts, \$2,805,000.

⁵ Objective tests, manuals, etc.; includes answer sheets.

⁶ "Standardized tests" included in "Pamphlets."

⁷ Represents books sold direct to the consumer through agents or distributors, usually on installment plan of payment. Includes multivolume encyclopedias, children's literature, biblical sets, etc. Copies sold represent number of volumes rather than sets. 1954 data not strictly comparable with later years due to difference in coverage. ⁸ Includes nursing and dental subjects. ⁹ Includes missals and, beginning 1958, prayer books.

¹⁰ For adults and juveniles. ¹¹ "Other religious books, paperbound" included in "Other books, paperbound."

¹² "Book club books" included in "Adult trade books, hardbound."

¹³ Digest size 4 1/4" x 6 3/4"; distributed 75 percent or more through magazine wholesalers.

¹⁴ "Wholesaled paperbound books" included in "Adult trade books, paperbound."

¹⁵ Sold primarily through booksellers or book dealers (retail and wholesale) at trade discounts. Juvenile books represent hardbound and paperbound books, excluding toy books.

Source: Dept. of Commerce, Bureau of the Census; U.S. Census of Manufactures: 1954, Series MC-27A; 1958, Series MC(P)-27A; and 1963, Series MC63(P)-27A-3.

No. 749. NEW BOOKS AND NEW EDITIONS PUBLISHED, BY SUBJECT: 1950 TO 1965

[Includes books published in U.S. and its outlying areas. Comprises new books (those published for the first time) and new editions (those published with substantial changes in text or format). Excludes State and Federal publications; subscription books, except encyclopedias; dissertations; second, third, or fourth printings or impressions; periodicals and quarterlies; and pamphlets of under 49 pages. Beginning 1964, data not strictly comparable with earlier years because of internal shifts in classifications. See also *Historical Statistics, Colonial Times to 1957*, series R 165-167]

SUBJECT	1950	1955	1960	1964			1965		
				Total	New books	New editions	Total	New books	New editions
Total	11,022	12,589	15,012	28,451	20,542	7,909	28,595	20,234	8,361
Agriculture.....	152	168	156	285	209	76	270	214	56
Art.....	357	347	470	908	776	130	871	763	208
Biography.....	603	833	879	948	697	251	685	455	230
Business.....	250	312	305	575	411	164	537	437	100
Education.....	256	274	348	1,232	934	298	954	789	165
Fiction.....	1,907	2,073	2,440	3,271	1,703	1,568	3,241	1,615	1,626
General works ¹	945	387	282	532	361	171	634	384	250
History.....	516	665	865	1,358	834	524	1,682	909	773
Home economics.....	193	257	197	237	188	49	300	241	59
Juvenile.....	1,059	1,485	1,725	2,808	2,533	276	2,895	2,473	422
Language.....	148	168	228	801	414	387	827	385	142
Law.....	298	305	394	346	256	90	436	291	145
Literature.....	591	660	736	1,454	1,038	416	1,686	1,166	520
Medicine.....	443	534	520	1,211	876	335	1,218	871	347
Music.....	113	103	98	214	156	58	300	183	117
Philosophy, psychology.....	340	314	480	766	528	238	979	582	397
Poetry, drama.....	531	493	492	936	681	255	994	775	219
Religion.....	727	849	1,104	1,830	1,441	389	1,855	1,428	427
Science.....	705	801	1,080	2,738	1,923	815	2,562	1,850	712
Sociology, economics.....	515	520	754	3,272	2,445	827	3,242	2,372	870
Sports, recreation.....	188	200	286	582	452	130	501	474	117
Technical books.....	497	477	698	1,125	939	186	1,153	942	211
Travel.....	288	366	466	1,024	747	277	883	635	248

¹ Classified as miscellaneous through 1960.

Source: R. R. Bowker Co., New York, N.Y.; *Publishers' Weekly*.

No. 750. BOOKS AND PERIODICALS—AVERAGE RETAIL PRICES, BY SUBJECT: 1956, 1960, AND 1965

SUBJECT	AVERAGE PRICES OF BOOKS ¹			SUBJECT	AVERAGE PRICES OF PERIODICALS ²		
	1956	1960	1965		1956	1960	1965
Total	\$4.61	\$5.24	\$7.65	Total	\$4.56	\$5.32	\$6.95
Agriculture.....	5.09	(NA)	8.04	Agriculture.....	2.52	2.84	3.83
Art.....	9.97	12.61	10.60	Business and economics.....	4.64	5.34	6.39
Biography.....	4.74	4.98	7.65	Chemistry and physics.....	9.39	11.80	18.42
Business.....	6.30	6.83	9.68	Children's periodicals.....	1.85	2.06	2.61
Children's books.....	2.50	2.74	3.11	Education.....	3.74	4.19	5.14
Economics.....	5.97	6.19	8.43	Engineering.....	4.94	5.86	7.70
Education.....	4.47	4.97	5.79	Fine and applied arts.....	4.07	4.94	5.92
History.....	5.88	5.91	8.83	History.....	4.00	4.60	5.30
Law.....	7.17	8.01	10.64	Home economics.....	3.80	4.43	5.37
Literature, general.....	3.24	3.59	6.90	Industrial arts.....	4.03	4.60	6.86
Literature, fiction.....	3.28	3.59	4.34	Journalism and communications.....	3.77	4.08	5.32
Literature, poetry.....	2.95	3.31	3.92	Labor and industrial relations.....	1.98	2.26	2.66
Literature, drama.....	3.60	4.48	5.47	Law.....	4.93	5.81	7.49
Medicine.....	7.73	8.41	11.88	Library science.....	3.22	3.71	5.15
Music.....	4.56	5.56	8.04	Literature and languages.....	3.50	4.05	4.65
Religion.....	3.74	4.05	6.72	Mathematics, botany, geology, and general science.....	5.82	7.27	10.96
Science.....	8.46	10.21	12.13	Medicine.....	9.09	10.28	14.02
Sports.....	4.57	4.80	6.58	Philosophy and religion.....	3.58	4.05	4.64
Technology.....	7.52	8.89	12.30	Physical education and recreation.....	3.02	3.47	4.26
				Political science.....	4.05	4.77	5.57
				Psychology.....	8.27	9.57	11.85
				Sociology and anthropology.....	3.72	4.52	5.26
				Zoology.....	7.01	8.90	10.31
				General interest periodicals.....	4.63	5.19	6.19

NA Not available. ¹ Excludes paperbound books, textbooks, government documents, and encyclopedias. Refers to books published in year stated. ² Average annual subscription prices.

Source: 1956 and 1960, Dept. of Health, Education, and Welfare, Office of Education; *The Cost of Library Materials: Price Trends of Publications*, Circular OE-15029A. 1965, average prices of books, R. R. Bowker Co., New York, N.Y.; *Publishers' Weekly*, January 17, 1966; and 1965, average prices of periodicals, American Library Association, *Library Journal*, July 1965.

No. 751. BOOKS—IMPORTS AND TRANSLATIONS INTO ENGLISH: 1964 AND 1965

[Imports cover all books printed abroad and distributed in U.S. on exclusive basis. See also headnote, table 749]

SUBJECT	IMPORTS						LANGUAGE	TRANSLATIONS		
	1964			1965				1964	1965	
	Total	New books	New editions	Total	New books	New editions				
Total.....	4,797	3,954	843	4,670	4,042	628	Total.....	1,876	1,749	
Agriculture.....	89	77	12	80	74	6	French.....	484	404	
Art.....	388	358	30	327	300	27	German.....	361	335	
Biography.....	175	141	34	145	116	29	Italian.....	70	58	
Business.....	40	34	6	42	39	3	Oriental.....	92	59	
Education.....	61	48	13	60	56	4		250	256	
Fiction.....	110	56	54	103	58	45		Russian.....	57	51
General works.....	71	57	14	78	69	9		Scandinavian...	56	53
History.....	260	191	69	299	243	56	Spanish.....	506	533	
Home economics.....	23	18	5	50	45	5	Other.....			
Juvenile.....	239	228	11	176	162	14				
Language.....	158	94	64	104	84	20				
Law.....	46	34	12	62	53	9				
Literature.....	275	217	58	284	231	53				
Medicine.....	310	248	62	313	274	39				
Music.....	51	42	9	48	38	10				
Philosophy.....	131	99	32	97	85	12				
Poetry, drama.....	148	112	36	188	162	26				
Religion.....	279	226	53	233	205	28				
Science.....	678	572	106	669	610	59				
Sociology, economics...	528	462	66	598	517	81				
Sports, recreation.....	147	127	20	115	107	8				
Technical books.....	305	270	35	317	286	31				
Travel.....	285	243	42	282	228	54				

Source: R. R. Bowker Co., New York, N.Y.; *Publishers' Weekly*, January 17, 1966.

No. 752. REGISTRATION OF COPYRIGHTS, BY SUBJECT MATTER: 1950 TO 1965

[For years ending June 30. Data comprise copyrights issued to citizens of the United States and residents of foreign countries. For information on patents, see table 791. See also *Historical Statistics, Colonial Times to 1957*, series W 52-65]

SUBJECT MATTER OF COPYRIGHT	1950	1955	1960	1963	1964	1965
Total.....	210,564	224,732	243,926	264,845	278,987	293,617
Books.....	50,456	54,414	60,034	68,445	71,757	76,098
Manufactured in the United States.....	45,706	49,142	55,713	63,936	66,789	71,396
Manufactured abroad in a foreign language.....	3,710	3,694	3,740	3,764	4,079	4,120
English-language books registered ad interim.....	1,040	1,578	581	745	889	582
Contributions to newspapers and periodicals.....	4,438	3,746	3,306	2,535	2,529	2,095
Periodicals.....	55,436	59,448	64,204	69,682	74,472	78,307
Lectures, sermons, addresses.....	1,007	813	835	806	1,112	848
Dramatic or dramatico-musical compositions.....	4,427	3,493	2,445	2,730	3,039	3,343
Musical compositions.....	52,309	57,527	65,558	72,583	75,256	80,881
Maps.....	1,638	2,013	1,812	2,002	1,955	3,262
Works of art.....	4,013	3,456	5,271	6,262	5,915	5,735
Reproductions of works of art.....	326	900	2,516	4,003	4,045	3,241
Drawings or plastic works of a scientific or technical character.....	1,316	1,350	768	780	893	1,239
Photographs.....	1,143	1,105	842	725	995	860
Prints and pictorial illustrations.....	4,309	3,793	3,343	2,504	3,325	2,927
Commercial prints and labels.....	13,320	10,505	8,142	7,318	7,013	7,509
Motion picture photoplays.....	782	1,216	2,755	3,207	3,018	2,536
Motion pictures not photoplays.....	1,113	1,434	702	1,009	1,089	1,216
Renewals of all classes.....	14,531	19,519	21,393	20,164	22,574	23,520

Source: The Library of Congress; *Annual Report*.

Section 19

Power

This section presents statistics on the supply, production, and distribution of power and energy. The principal sources of these data are the Federal Power Commission and the American Gas Association.

The Federal Power Commission publishes various statistical reports containing information on the electric power and natural gas industries. At periodic intervals it issues publications containing information on the production of electricity, capacity of generating plants (industrial plants as well as utilities), fuels used in production, financial data, sales of electric energy, construction costs and production expenses of steam electric and hydroelectric plants, financial and operating statistics on both the electric and interstate gas pipeline utilities, hydroelectric power resources of the United States, sales by producers of natural gas to interstate gas pipeline companies, and depreciation practices of electric and interstate gas pipeline utilities.

The Commission also issues periodic reports on electric utility rates, including the national electric rate book, typical electric bills, and annual bills for all-electric homes. Maps showing principal natural gas pipelines and principal electric facilities in the United States are published from time to time. Other publications relate to the statutes and regulations administered by the Commission.

The American Gas Association, in its monthly and quarterly bulletins and its year-book, *Gas Facts*, presents data on natural gas utilization and on production of gas from coal, oil, and similar products. Other important sources include the Bureau of Mines' *Minerals Yearbook*, containing data on coal, oil, and natural gas production and utilization; and the Edison Electric Institute's monthly and annual *Statistical Bulletin*, containing data on the distribution of electric energy by public utilities.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

No. 753. TOTAL HORSEPOWER OF ALL PRIME MOVERS: 1940 TO 1965

[In thousands. As of January, except as noted. Prior to 1960, excludes Alaska and Hawaii, except as noted. Prime movers are mechanical engines and turbines, and work animals, which originally convert fuels or force (as wind or falling water) into work and power. Electric motors, which are secondary movers and obtain their power from prime movers, are excluded to avoid duplication. See also *Historical Statistics, Colonial Times to 1957*, series S 1-14]

ITEM	1940	1950	1955	1960	1964	1965 (prel.)
Total horsepower	2,773,316	4,854,705	7,158,229	11,007,889	14,272,244	15,096,332
Work animals.....	12,610	7,040	4,141	2,790	2,250	2,000
Inanimate.....	2,760,806	4,847,665	7,154,088	11,005,099	14,269,994	15,094,332
Automotive ^{1 2}	2,511,312	4,403,617	6,632,121	10,366,880	13,512,653	14,306,300
Nonautomotive.....	249,494	444,048	521,967	638,219	757,341	788,032
Factories.....	21,768	32,921	35,579	42,000	47,000	48,400
Mines.....	7,332	9,167	30,768	34,700	39,327	40,300
Railroads.....	92,361	110,969	60,304	46,856	46,548	³ 43,838
Merchant ships, powered.....	⁴ 9,408	⁴ 23,423	⁴ 24,155	23,890	23,715	24,015
Sailing vessels.....	⁴ 26	⁴ 11	⁴ 5	2	2	2
Farms ⁵	57,472	157,633	207,742	237,020	258,451	269,822
Windmills.....	130	59	59	44	44	30
Electric central stations ²	53,542	87,965	137,576	217,173	287,111	307,025
Aircraft ⁶	⁴ 7,455	⁴ 22,000	⁴ 25,779	36,534	55,154	³ 54,600

¹ Includes passenger cars, trucks, buses, and motorcycles. ² As of July 1.

³ Not strictly comparable with earlier years. ⁴ Includes Alaska and Hawaii.

⁵ Excludes horses and other work animals, which are included with "Work animals."

⁶ Includes private planes and commercial airliners.

Source: The Twentieth Century Fund, J. F. Dewhurst and Associates, *America's Needs and Resources, A New Survey*; and John A. Waring, *Transactions of Canadian Sectional Meeting, World Power Conference, 1958*; and unpublished estimates by John A. Waring.

No. 754. MINERAL ENERGY RESOURCES AND ELECTRICITY—PRODUCTION AND CONSUMPTION, BY SOURCE: 1930 TO 1965

[In trillions of British thermal units, except percent. Prior to 1960, excludes Alaska and Hawaii, except data for bituminous coal include Alaska for all years. Unit heat values used are: Anthracite, 12,700 B.t.u. per pound; bituminous coal and lignite 13,100 B.t.u. per pound; petroleum, 5,800,000 B.t.u. per barrel; natural gas, total production multiplied by 1,075 B.t.u. minus repressuring vent and waste gas multiplied by 1,035. For electricity series, hydropower and nuclear power converted to coal input equivalent at prevailing average pounds of coal per kilowatt hour each year at central electric plants, using 12,000 B.t.u. per pound. See also *Historical Statistics Colonial Times to 1957*, series M 71-87]

YEAR	Total	COAL		Crude petroleum ¹	Natural gas ²	Elec- tricity	PERCENT				
		Anthra- cite	Bitu- minous and lignite				Coal		Crude petro- leum ¹	Natural gas ²	Elec- tricity
							Anthra- cite	Bitu- minous and lignite			
PRODUCTION											
1930.....	22, 119	1, 762	12, 249	5, 208	2, 148	(NA)	8.0	55.4	23.5	9.7	(NA)
1940.....	25, 088	1, 308	12, 072	7, 849	2, 979	(NA)	5.2	48.1	31.3	11.9	(NA)
1950.....	34, 510	1, 120	13, 527	11, 449	6, 841	(NA)	3.2	39.2	33.2	19.8	(NA)
1955.....	38, 900	665	12, 174	14, 410	10, 204	(NA)	1.7	31.3	37.1	26.2	(NA)
1960.....	41, 704	478	10, 886	14, 935	13, 822	1, 583	1.1	26.1	35.8	33.2	3.8
1961.....	42, 165	443	10, 558	15, 206	14, 336	1, 622	1.1	25.0	35.9	33.9	4.1
1962.....	43, 786	429	11, 034	15, 522	15, 004	1, 797	1.0	25.2	35.4	34.3	4.1
1963.....	46, 169	464	12, 024	15, 966	15, 941	1, 774	1.0	26.0	34.6	34.5	3.9
1964.....	48, 038	436	12, 759	16, 164	16, 792	1, 887	0.9	26.6	33.6	34.9	4.0
1965 (prel.).....	50, 106	391	13, 362	16, 521	17, 744	2, 088	0.8	26.6	33.0	35.4	4.2
CONSUMPTION											
1930.....	22, 288	1, 718	11, 921	5, 652	2, 212	(NA)	7.7	53.5	25.4	9.9	(NA)
1940.....	23, 908	1, 245	11, 290	7, 487	2, 969	(NA)	5.2	47.2	31.4	12.4	(NA)
1950.....	34, 153	1, 013	11, 900	12, 706	6, 933	(NA)	3.0	34.8	37.2	20.3	(NA)
1955.....	39, 956	599	11, 104	16, 328	10, 428	(NA)	1.5	27.8	40.8	26.1	(NA)
1960.....	44, 816	447	9, 967	18, 608	14, 163	1, 631	1.0	22.2	41.6	31.6	3.6
1961.....	45, 573	404	9, 809	18, 989	14, 726	1, 645	0.9	21.5	41.6	32.3	3.7
1962.....	47, 620	363	10, 160	19, 662	15, 632	1, 803	0.8	21.3	41.2	32.9	3.8
1963.....	49, 598	361	10, 722	20, 231	16, 511	1, 773	0.7	21.7	40.8	33.2	3.6
1964.....	51, 676	365	11, 295	20, 707	17, 417	1, 892	0.7	21.8	40.3	33.5	3.7
1965 (prel.).....	54, 478	371	12, 026	21, 577	18, 416	2, 088	0.7	22.1	39.6	33.7	3.9

NA Not available.

¹Includes commingled condensate. Beginning 1950, consumption includes petroleum products (net imports).

²Marketed production; includes amount stored and lost in transmission. Consumption includes dry and liquid gas.

Source: Dept. of the Interior, Bureau of Mines; *Minerals Yearbook*. Current data in *Mineral Industry Surveys*.

No. 755. MINERAL ENERGY CONSUMPTION AND GENERAL ECONOMIC INDICATORS: 1964 and 1980 PROJECTION

ITEM	1964	1980	Growth-rate 1964 to 1980 ¹
Consumption:			
Energy.....trillions of British thermal units.....	51, 676	85, 934	3.2
Petroleum, including natural gas liquids.....million barrels.....	3, 974	6, 530	3.1
Natural gas.....billion cubic feet.....	15, 536	25, 619	3.2
Coal.....million tons.....	445	624-800	2.2-3.7
Electrical energy, utility.....billion kilowatt-hours.....	980	2, 739	6.6
Population.....1,000.....	192, 120	245, 313	1.6
Labor force.....1,000.....	76, 971	101, 408	1.7
Gross national product.....billions of 1954 dollars.....	516	955	3.9
Index of industrial production (1957-59=100).....	132	250	4.1

¹ Percent per year.

Source: Dept. of Interior, Bureau of Mines; *Minerals Yearbook*. Includes data from Bureau of the Census, from Bureau of Labor Statistics, and from William A. Vogely; *Pattern of Energy Consumption in the United States*.

No. 756. UTILITY ELECTRIC ENERGY USE, 1960 TO 1964, AND PROJECTED REQUIREMENTS, 1965 TO 1980

[Excludes generation by industrial facilities and railways having generating facilities of their own]

YEAR	ENERGY USE			PEAK LOAD		
	Billion kw.-hr.	Percent increase		Million kw.	Percent increase	
		From 1960	For each interval		From 1960	For each interval
1960.....	763.5	(X)	(X)	138.4	(X)	(X)
1961.....	799.7	4.7	4.7	145.0	4.8	4.8
1962.....	860.6	12.7	7.6	157.6	13.9	8.7
1963.....	921.0	20.6	7.0	167.7	21.2	6.4
1964.....	989.1	29.5	7.4	179.2	29.5	6.9
1965.....	1,065.5	39.6	15.7	194.4	40.5	15.9
1970.....	1,488.6	95.0	39.7	271.1	95.9	39.5
1975.....	2,030.6	166.0	36.4	371.0	168.1	36.8
1980.....	2,701.6	253.8	33.0	495.0	257.7	33.4

X Not applicable.

Source: Federal Power Commission; unpublished data.

No. 757. ELECTRIC ENERGY PRODUCTION AND INSTALLED GENERATING CAPACITY, BY CLASS OF OWNERSHIP AND TYPE OF PRIME MOVER: 1940 TO 1965

[Production for years ending December 31; other data as of December 31. Prior to 1963, excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series S 15-35 and S 44-69]

ITEM	1940	1945	1950	1955	1960	1963	1964	1965 (prel.)
Production (mil. kw.-hr.).....	179,907	271,255	388,674	629,010	841,616	1,011,417	1,083,741	1,156,929
Industrial plants ¹	38,070	48,769	59,533	81,972	88,266	94,624	99,751	102,139
Electric utilities (for public use).....	141,837	222,486	329,141	547,038	753,350	916,793	983,990	1,054,790
By class of ownership:								
Privately owned ²	125,411	180,926	266,860	420,869	578,600	701,253	756,183	809,535
Percent of utility production.....	88.4	81.3	81.1	76.9	76.5	76.5	76.8	76.7
Publicly owned ²	16,426	41,560	62,281	126,169	174,750	215,540	227,807	245,255
Municipal.....	6,188	9,624	15,244	25,852	36,924	46,292	50,263	49,813
Federal.....	8,584	28,001	40,388	89,064	112,321	124,340	129,936	145,226
Cooperatives, power districts, State projects.....	1,175	3,146	5,793	11,253	25,505	44,908	47,609	50,217
By source of energy (percent):								
Coal ³	54.6	51.7	47.1	55.1	53.6	54.2	53.8	54.5
Oil.....	4.4	3.5	10.3	6.8	6.1	5.7	5.8	6.2
Gas.....	7.7	8.9	13.5	17.4	21.0	22.0	22.4	21.0
Hydro.....	33.4	35.9	29.2	20.7	19.3	18.1	18.0	18.3
Installed capacity (1,000 kw.).....	50,962	62,868	82,850	130,896	185,815	228,757	240,471	254,218
Industrial plants ¹	11,035	12,757	13,931	16,424	17,813	18,208	18,186	18,540
Electric utilities (for public use).....	39,927	50,111	68,919	114,472	168,002	210,549	222,285	235,677
By class of ownership:								
Privately owned.....	34,399	40,307	55,176	86,887	128,450	158,448	167,704	177,305
Percent of utility capacity.....	86.2	80.4	80.1	75.9	76.5	75.3	75.4	75.2
Publicly owned ²	5,828	9,804	13,743	27,585	39,552	52,101	54,681	58,372
Municipal.....	2,977	3,586	4,970	7,795	11,499	14,222	15,199	15,218
Federal.....	1,944	5,081	6,921	10,962	22,350	27,315	28,342	31,690
Cooperatives, power districts, State projects.....	435	891	1,538	2,828	5,703	10,565	11,040	11,464
TYPE OF PRIME MOVER								
Electric utilities (for public use):								
Number of plants, total ⁴	3,918	3,886	3,867	3,587	3,435	3,402	3,377	3,345
Hydro.....	1,474	1,505	1,458	1,381	1,331	1,284	1,274	1,248
Steam.....	1,153	1,087	1,051	1,045	1,060	1,074	1,072	1,078
Internal combustion.....	1,291	1,324	1,358	1,161	1,044	1,044	1,031	1,019
Production (mil. kw.-hr.).....	141,837	222,486	329,141	547,038	753,350	916,793	983,990	1,054,790
Hydro.....	47,321	79,970	95,938	112,975	145,516	165,755	177,073	193,448
Steam.....	93,002	140,435	229,543	430,119	603,342	745,982	801,907	861,342
Internal combustion.....	1,514	2,081	3,660	3,944	4,492	5,047	5,010	5,010
Installed capacity (1,000 kw.).....	39,927	50,111	68,919	114,472	168,002	210,549	222,285	235,677
Hydro.....	11,224	14,912	17,675	25,004	32,867	40,214	42,188	43,792
Steam.....	27,775	34,113	49,333	87,112	132,815	167,090	176,777	188,499
Internal combustion.....	928	1,087	1,911	2,355	2,817	3,245	3,320	3,386
Production per kilowatt of installed capacity, utilities only (kw.-hr.) ⁵	3,552	4,440	4,776	4,779	4,484	4,354	4,427	4,476

¹ Comprises production and capacity of industrial electric powerplants of 100 kilowatts and over, including amounts for stationary electric powerplants of railroads and railways.

² Noncentral stations included only in total prior to 1955; distributed to other publicly owned classes thereafter.

³ Includes small percentage from wood and waste and also, in past few years, from nuclear fuel.

⁴ Each prime mover type in combination plants counted separately. ⁵ Capacity in service at end of year.

Source: Federal Power Commission; annual summaries, industrial electric power summaries, related monthly reports, and unpublished data.

No. 758. ELECTRIC UTILITIES—SUPPLY SYSTEMS, UTILITIES, AND GENERATING PLANTS, BY CLASS OF OWNERSHIP: 1945 TO 1964

[As of December 31. Prior to 1963, excludes Alaska and Hawaii. Duplications of establishments operating in two or more States have been eliminated. Each type of prime mover in combination generating plants counted separately; nonutility generating plants producing primarily for industrial use are excluded]

ITEM	Total, all classes	Pri- vately owned	Cooper- atively owned	PUBLICLY OWNED			
				Total	Munic- ipal	Fed- eral	Other ¹
1945: Total electric supply systems	4,051	1,060	800	2,191	2,092	74	25
Utilities with generating plants	1,594	492	83	1,019	990	18	11
Number of generating plants	3,886	2,400	142	1,344	1,157	86	101
1950: Total electric supply systems	4,007	821	963	2,223	2,077	55	91
Utilities with generating plants	1,495	393	92	1,010	955	13	42
Number of generating plants	3,867	2,334	166	1,367	1,136	83	148
1955: Total electric supply systems	3,648	581	950	2,117	1,968	57	92
Utilities with generating plants	1,315	315	78	922	865	9	48
Number of generating plants	3,587	2,103	146	1,338	1,068	129	141
1960: Total electric supply systems	3,637	496	965	2,176	2,026	43	107
Utilities with generating plants	1,198	270	68	860	802	6	52
Number of generating plants	3,435	2,000	132	1,303	1,017	142	144
1963: Utilities with generating plants	1,209	267	77	865	808	8	49
Number of generating plants	3,402	1,914	159	1,329	1,051	149	129
1964: ² Utilities with generating plants	1,192	259	76	857	799	8	50
Number of generating plants	3,377	1,881	165	1,331	1,040	157	134

¹ Public utility districts and State projects.

² Preliminary 1965 data for "total, all classes" as follows: Total electric supply systems, 3,490; utilities with generating plants, 1,170; and number of generating plants, 3,345.

Source: Federal Power Commission; annual summaries.

No. 759. ELECTRIC ENERGY—SALES, BY GEOGRAPHIC DIVISION AND CLASS OF SERVICE: 1950 TO 1964

[In millions of kilowatt-hours. Prior to 1963, excludes Alaska and Hawaii. For States comprising each division, see table 760]

DIVISION AND CLASS	1950	1960	1963	1964	DIVISION AND CLASS	1950	1960	1963	1964
United States.....	290,897	686,493	832,613	895,834	South Atlantic.....	36,218	90,950	115,205	126,799
Residential.....	72,200	200,798	250,754	271,696	Residential.....	9,092	30,305	39,086	43,140
Commercial.....	52,091	132,892	170,737	185,326	Commercial.....	6,954	18,731	24,584	27,344
Industrial.....	144,479	321,332	377,429	403,219	Industrial.....	18,706	39,046	47,748	52,173
Other.....	22,127	31,472	33,693	35,593	Other.....	1,466	2,868	3,787	4,142
New England.....	14,083	26,921	32,180	34,406	East South Central.....	23,393	88,018	97,483	100,947
Residential.....	3,938	9,597	11,547	12,291	Residential.....	5,234	17,662	21,964	24,072
Commercial.....	2,620	5,641	7,056	7,623	Commercial.....	2,238	6,307	7,842	8,597
Industrial.....	7,085	10,861	12,561	13,385	Industrial.....	14,582	62,302	65,572	65,936
Other.....	439	822	1,016	1,107	Other.....	1,338	1,747	2,105	2,342
Middle Atlantic.....	59,430	103,228	125,863	135,022	West South Central.....	19,412	58,086	77,268	84,214
Residential.....	12,302	28,669	34,175	36,456	Residential.....	4,472	18,041	25,646	27,766
Commercial.....	11,826	24,290	29,080	31,466	Commercial.....	4,310	12,885	17,621	18,861
Industrial.....	30,008	43,142	54,742	58,919	Industrial.....	9,379	24,651	30,732	34,021
Other.....	5,293	7,127	7,866	8,181	Other.....	1,250	2,508	3,269	3,536
East North Central.....	65,298	149,402	175,239	186,040	Mountain.....	10,694	30,865	38,895	41,816
Residential.....	16,292	41,152	48,452	51,829	Residential.....	2,920	8,408	10,803	11,899
Commercial.....	9,789	25,049	30,072	32,276	Commercial.....	1,916	5,649	8,845	9,748
Industrial.....	34,880	77,163	89,543	94,398	Industrial.....	4,363	13,187	16,541	17,429
Other.....	4,337	6,038	7,172	7,537	Other.....	1,495	3,622	2,706	2,740
West North Central.....	18,793	42,210	52,439	56,366	Pacific.....	43,576	96,814	118,041	130,224
Residential.....	6,770	17,971	22,183	23,729	Residential.....	11,180	28,992	36,898	40,484
Commercial.....	3,943	9,097	11,867	12,465	Commercial.....	8,403	25,243	33,770	36,946
Industrial.....	6,948	13,861	16,903	18,604	Industrial.....	18,527	37,119	43,087	48,354
Other.....	1,132	1,280	1,486	1,568	Other.....	5,377	5,459	4,286	4,440

Source: Federal Power Commission; *Annual Report*, 1965.

No. 760. ELECTRIC UTILITIES—INSTALLED GENERATING CAPACITY AND ELECTRIC ENERGY PRODUCTION, BY STATES: 1950 TO 1964

[Installed capacity as of December 31; production for years ending December 31]

STATE	INSTALLED CAPACITY (1,000 kw.)				ENERGY PRODUCTION (mil. kw.-hr.)			
	1950	1955	1960	1964	1950	1955	1960	1964
United States¹	68,919	114,472	168,568	222,285	329,141	547,038	755,375	983,990
New England	4,052	5,271	7,045	8,456	16,211	22,610	28,808	36,334
Maine	415	623	743	771	1,680	2,405	2,966	3,368
New Hampshire	398	474	762	761	1,329	1,718	2,188	2,592
Vermont	204	261	261	285	735	981	842	690
Massachusetts	1,653	2,167	2,971	3,805	6,588	9,461	13,309	17,940
Rhode Island	359	401	427	424	1,566	1,955	1,699	1,226
Connecticut	1,022	1,345	1,880	2,409	4,223	6,091	7,804	10,517
Middle Atlantic	13,225	18,218	25,536	32,619	63,372	86,140	112,749	146,605
New York	6,257	8,469	11,821	16,162	29,452	39,533	51,897	68,538
New Jersey	2,053	2,914	4,538	5,977	9,921	12,306	17,730	24,726
Pennsylvania	4,916	6,835	9,178	10,480	24,000	34,301	43,122	53,341
East North Central	16,083	25,976	36,780	43,787	75,349	125,853	165,101	202,160
Ohio	4,430	7,459	10,612	11,925	21,967	35,955	49,489	55,165
Indiana	2,142	4,351	6,566	8,132	10,374	21,193	30,966	38,968
Illinois	4,506	6,955	9,354	11,431	20,686	35,997	43,085	52,862
Michigan	3,222	4,590	6,758	8,138	15,316	22,365	27,672	37,996
Wisconsin	1,783	2,622	3,490	4,160	7,006	10,343	13,888	17,169
West North Central	5,024	7,930	11,538	15,972	19,237	30,463	43,734	60,047
Minnesota	1,151	1,764	2,434	3,017	4,549	6,642	9,613	13,075
Iowa	1,173	1,554	2,011	2,697	4,428	6,212	7,927	9,302
Missouri	958	1,743	2,697	4,090	3,718	6,952	10,552	15,150
North Dakota	187	264	666	747	660	963	1,780	2,729
South Dakota	169	491	545	1,293	536	1,399	1,700	3,601
Nebraska	572	762	1,224	1,588	2,011	2,816	4,351	5,516
Kansas	814	1,353	1,960	2,639	3,335	5,478	7,810	10,675
South Atlantic	8,857	15,131	22,696	31,785	43,604	71,220	103,636	141,878
Delaware	28	224	425	603	20	1,366	2,262	3,193
Maryland	1,099	1,373	2,077	3,312	5,040	5,845	9,240	13,920
District of Columbia	508	533	533	537	1,669	1,627	976	871
Virginia	1,204	1,931	3,870	4,946	6,233	9,380	18,285	23,090
West Virginia	1,256	2,177	3,217	3,048	7,821	14,239	14,013	18,889
North Carolina	1,760	3,505	4,397	6,007	9,829	15,592	20,000	28,189
South Carolina	847	1,652	2,249	2,690	2,910	5,870	10,238	12,497
Georgia	1,156	1,675	2,236	3,755	5,235	7,705	10,655	14,364
Florida	999	2,062	3,992	6,887	4,847	9,593	17,967	26,865
East South Central	4,464	11,657	16,614	21,996	24,606	66,530	87,691	106,487
Kentucky	904	2,745	3,362	5,822	4,390	17,693	19,899	29,667
Tennessee	1,670	4,628	7,521	7,922	9,379	24,625	40,071	36,751
Alabama	1,690	3,654	4,700	7,014	9,577	21,348	24,594	35,399
Mississippi	200	631	1,032	1,218	1,260	2,864	3,127	4,670
West South Central	4,717	9,449	16,401	23,156	22,515	40,823	64,608	92,904
Arkansas	450	1,165	1,188	1,824	1,975	4,909	5,244	6,662
Louisiana	909	1,594	2,934	4,227	4,936	6,977	11,865	16,061
Oklahoma	723	1,260	2,225	3,005	2,927	5,337	8,299	11,983
Texas	2,636	5,430	10,054	14,100	12,676	23,900	39,200	58,198
Mountain	3,445	6,106	8,700	12,134	16,497	24,155	36,611	45,589
Montana	442	925	1,353	1,396	3,136	4,696	5,992	7,360
Idaho	445	781	1,255	1,255	2,538	3,907	6,165	6,292
Wyoming	139	236	382	900	595	724	1,588	3,553
Colorado	464	959	1,317	1,836	1,856	3,719	5,571	7,236
New Mexico	281	459	802	1,003	1,014	1,765	3,041	6,899
Arizona	843	1,626	2,266	3,252	3,489	5,535	8,562	8,793
Utah	235	523	606	801	659	2,377	3,038	2,765
Nevada	596	597	720	1,092	3,210	1,431	2,655	2,892
Pacific¹	9,054	14,733	23,256	32,381	47,751	79,245	112,437	151,987
Washington	2,765	4,074	7,215	9,334	17,371	24,030	34,163	46,854
Oregon	973	2,046	2,614	3,189	5,545	12,703	12,425	14,947
California	5,316	8,612	12,862	18,973	24,836	42,512	63,834	87,202
Alaska	(NA)	(NA)	117	204	(NA)	(NA)	359	629
Hawaii	(NA)	(NA)	449	681	(NA)	(NA)	1,666	2,355

NA Not available. ¹ Prior to 1960, excludes Alaska and Hawaii.

Source: Federal Power Commission; annual summaries and related monthly reports.

NO. 761. ELECTRIC UTILITIES AND INDUSTRIAL PLANTS—INSTALLED GENERATING CAPACITY, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP, BY STATES: 1964

[In thousands of kilowatts. As of December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES				Industrial plants
		Electric utilities and industrial		Electric utilities		Total	Investor-owned	Noninvestor-owned		
		Fuel	Hydro	Fuel	Hydro			Municipal	Other ¹	
United States.....	240,471	197,572	42,899	180,098	42,188	222,285	167,704	15,199	39,382	18,186
New England.....	9,594	8,097	1,498	7,209	1,247	8,456	8,179	238	38	1,139
Maine.....	1,142	648	493	422	349	771	751	4	17	370
New Hampshire.....	844	403	441	366	395	761	757	4	-	83
Vermont.....	306	108	198	100	185	285	270	16	-	21
Massachusetts.....	4,280	4,057	223	3,624	182	3,805	3,631	165	9	475
Rhode Island.....	448	445	3	422	2	424	417	2	5	24
Connecticut.....	2,574	2,435	139	2,276	133	2,409	2,353	49	8	165
Middle Atlantic.....	34,669	30,192	4,477	28,215	4,404	32,619	29,235	250	3,133	2,051
New York.....	16,690	12,655	4,035	12,196	3,966	16,162	12,935	104	3,123	528
New Jersey.....	6,274	6,266	8	5,971	6	5,977	5,915	59	2	297
Pennsylvania.....	11,705	11,271	434	10,049	431	10,480	10,385	87	8	1,226
East North Central.....	48,178	47,276	903	42,975	812	43,787	41,042	2,204	541	4,392
Ohio.....	13,146	13,143	3	11,923	2	11,925	11,320	591	14	1,221
Indiana.....	9,119	9,090	29	8,103	29	8,132	7,800	332	-	987
Illinois.....	12,061	12,019	41	11,393	39	11,431	10,919	368	144	629
Michigan.....	9,274	8,868	405	7,769	369	8,138	7,292	737	108	1,136
Wisconsin.....	4,580	4,155	424	3,788	373	4,160	3,711	176	274	419
West North Central.....	16,763	13,956	2,807	13,206	2,765	15,972	10,134	2,401	3,437	792
Minnesota.....	3,463	3,281	183	2,868	150	3,017	2,501	419	97	446
Iowa.....	2,729	2,592	136	2,461	136	2,597	2,025	393	180	131
Missouri.....	4,205	3,404	801	3,289	801	4,090	3,237	514	339	115
North Dakota.....	761	361	400	347	400	747	256	17	475	14
South Dakota.....	1,302	259	1,043	258	1,035	1,293	217	41	1,035	10
Nebraska.....	1,593	1,355	238	1,350	238	1,588	-	337	1,261	5
Kansas.....	2,709	2,703	6	2,633	6	2,639	1,899	680	60	70
South Atlantic.....	34,919	29,946	4,973	26,990	4,794	31,785	28,111	1,796	1,878	3,134
Delaware.....	640	640	-	603	-	603	550	53	-	37
Maryland.....	3,550	3,056	494	2,818	494	3,312	3,245	60	7	238
Dist. of Columbia.....	849	546	3	534	3	537	534	-	3	13
Virginia.....	5,409	4,952	457	4,511	435	4,946	4,658	57	232	463
West Virginia.....	4,049	3,842	208	2,947	101	3,048	3,048	-	-	1,001
North Carolina.....	6,263	4,524	1,740	4,280	1,727	6,007	5,531	114	361	257
South Carolina.....	3,142	2,182	960	1,754	936	2,690	2,117	5	568	452
Georgia.....	4,105	3,036	1,069	2,639	1,056	3,755	3,133	3	622	350
Florida.....	7,210	7,168	42	6,845	42	6,887	5,296	1,507	85	323
East South Central.....	22,948	18,438	4,511	17,493	4,503	21,996	7,014	1,132	13,850	953
Kentucky.....	6,877	5,336	541	5,302	541	5,842	2,075	233	3,534	35
Tennessee.....	8,363	6,369	1,993	5,929	1,993	7,922	172	798	6,953	440
Alabama.....	7,397	5,420	1,977	5,045	1,969	7,014	3,650	(Z)	3,363	384
Mississippi.....	1,812	1,812	-	1,218	-	1,218	1,117	101	-	94
West South Central.....	27,207	25,797	1,410	21,746	1,410	23,156	18,959	2,371	1,827	4,051
Arkansas.....	2,129	1,465	664	1,160	664	1,824	1,091	77	655	306
Louisiana.....	5,398	5,398	-	4,227	-	4,227	3,827	400	-	1,171
Oklahoma.....	3,049	2,693	355	2,650	355	3,005	2,326	155	525	43
Texas.....	16,631	16,241	390	13,710	390	14,100	11,714	1,739	647	2,631
Mountain.....	12,926	7,699	5,227	6,910	5,225	12,134	7,683	375	4,076	792
Montana.....	1,404	142	1,262	135	1,262	1,396	896	-	500	7
Idaho.....	1,294	43	1,251	4	1,251	1,255	1,033	13	209	39
Wyoming.....	927	715	213	687	213	900	679	2	219	27
Colorado.....	1,938	1,672	266	1,570	266	1,836	1,349	222	265	102
New Mexico.....	1,699	1,675	25	1,578	25	1,603	1,402	79	122	97
Arizona.....	3,478	2,161	1,318	1,934	1,318	3,252	1,293	2	1,956	227
Utah.....	1,047	838	210	592	209	801	619	55	127	246
Nevada.....	1,138	455	683	410	682	1,092	412	1	679	46
Pacific.....	33,265	16,172	17,093	15,352	17,029	32,381	17,346	4,432	10,603	884
Washington.....	9,651	532	9,119	243	9,092	9,334	1,093	1,120	7,122	316
Oregon.....	3,362	350	3,012	197	2,992	3,189	1,224	143	1,822	173
California.....	19,221	14,360	4,861	14,114	4,859	18,973	14,322	3,088	1,562	248
Alaska.....	242	160	82	122	82	204	27	81	96	38
Hawaii.....	789	770	19	677	3	681	681	-	-	108

- Represents zero. Z Less than 500 kw.

¹ Includes Federal, State, public utility districts, and cooperatives.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 762. ELECTRIC ENERGY—PRODUCTION, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP, BY STATES: 1964

[In millions of kilowatt-hours. For year ending December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES				Industrial plants
		Electric utilities and industrial		Electric utilities		Total	Investor-owned	Noninvestor-owned		
		Fuel	Hydro	Fuel	Hydro			Municipal	Other ¹	
United States..	1,083,741	903,440	180,302	806,917	177,073	983,990	756,183	50,263	177,544	99,751
New England.....	40,294	35,081	5,214	32,287	4,046	36,334	35,546	643	145	3,961
Maine.....	5,360	2,882	2,478	1,717	1,651	3,368	3,310	15	43	1,992
New Hampshire.....	2,913	1,763	1,151	1,624	968	2,592	2,589	3	—	321
Vermont.....	755	93	663	77	614	690	649	42	—	65
Massachusetts.....	18,951	18,286	665	17,374	566	17,940	17,395	511	34	1,011
Rhode Island.....	1,301	1,297	4	1,223	4	1,226	1,185	2	39	75
Connecticut.....	11,015	10,761	253	10,273	244	10,517	10,419	70	28	497
Middle Atlantic.....	156,093	136,568	19,526	127,382	19,222	146,605	130,758	762	15,084	9,489
New York.....	70,975	52,750	18,225	50,594	17,943	68,538	53,162	316	15,059	2,437
New Jersey.....	26,004	25,985	19	24,713	12	24,726	24,537	183	6	1,279
Pennsylvania.....	59,114	57,833	1,281	52,075	1,267	53,341	53,059	263	18	5,773
East North Central...	224,510	221,208	3,303	199,269	2,892	202,160	193,410	6,424	2,326	22,350
Ohio.....	62,152	62,143	9	55,157	8	55,165	53,361	1,729	75	6,987
Indiana.....	43,693	43,648	45	38,923	45	38,968	38,034	934	—	4,726
Illinois.....	55,839	55,661	178	52,706	156	52,862	51,433	1,075	355	2,976
Michigan.....	43,651	42,108	1,543	36,581	1,415	37,996	35,135	2,282	579	5,655
Wisconsin.....	19,175	17,648	1,527	15,903	1,267	17,169	15,448	405	1,316	2,006
West North Central...	64,376	56,434	7,942	52,297	7,750	60,047	42,222	5,587	12,238	4,329
Minnesota.....	15,562	14,617	945	12,289	786	13,075	11,910	883	281	2,487
Iowa.....	10,030	9,340	690	8,613	688	9,302	8,115	798	389	728
Missouri.....	15,733	15,414	319	14,831	319	15,150	12,536	1,378	1,235	583
North Dakota.....	2,796	918	1,878	852	1,878	2,729	2,605	5	2,119	66
South Dakota.....	3,637	542	3,095	539	3,062	3,601	534	12	3,056	36
Nebraska.....	5,534	4,531	1,002	4,514	1,002	5,516	—	681	4,885	18
Kansas.....	11,085	11,072	13	10,661	13	10,675	8,522	1,880	272	410
South Atlantic.....	160,416	142,592	17,824	124,841	17,036	141,878	129,877	5,223	6,777	18,538
Delaware.....	3,340	3,340	—	3,193	—	3,193	3,097	96	—	147
Maryland.....	15,375	14,264	1,112	12,809	1,111	13,920	13,742	140	37	1,456
Dist. of Columbia..	918	913	5	866	5	871	866	—	5	47
Virginia.....	25,515	24,654	860	22,306	784	23,090	22,521	227	342	2,425
West Virginia.....	25,158	24,251	907	18,502	387	18,889	18,889	—	—	6,269
North Carolina.....	29,578	23,590	5,988	22,238	5,951	28,189	26,476	93	1,620	1,389
South Carolina.....	14,812	10,463	4,349	8,235	4,262	12,497	10,028	20	2,449	2,315
Georgia.....	16,832	12,520	4,312	10,118	4,246	14,364	12,414	—	1,951	2,468
Florida.....	28,888	28,598	290	26,575	290	26,865	21,846	4,646	373	2,022
East South Central...	110,865	90,593	20,272	86,240	20,247	106,487	31,938	4,598	69,952	4,378
Kentucky.....	29,827	27,412	2,415	27,253	2,415	29,667	8,477	646	20,544	160
Tennessee.....	38,056	28,959	9,097	27,654	9,097	36,751	953	3,717	32,080	1,305
Alabama.....	37,546	28,786	8,761	26,663	8,736	35,399	18,072	—	17,327	2,147
Mississippi.....	5,436	5,436	—	4,670	—	4,670	4,436	234	—	766
West South Central...	122,514	120,993	1,521	91,583	1,321	92,904	82,602	6,783	3,519	29,410
Arkansas.....	8,833	8,272	561	6,101	561	6,662	5,743	185	734	2,171
Louisiana.....	25,107	25,107	—	16,061	—	16,061	15,014	1,047	—	9,047
Oklahoma.....	12,222	11,916	306	11,677	306	11,983	10,489	359	1,135	239
Texas.....	76,152	75,698	454	57,744	454	58,198	51,356	5,191	1,650	17,954
Mountain.....	49,277	28,958	20,319	25,274	20,315	45,589	31,877	1,189	12,522	3,688
Montana.....	7,379	559	6,820	539	6,820	7,360	5,355	—	2,004	20
Idaho.....	6,444	152	6,293	(Z)	6,292	6,292	5,229	78	985	152
Wyoming.....	3,493	2,618	874	2,478	874	3,353	2,474	(Z)	879	140
Colorado.....	7,717	6,661	1,056	6,180	1,055	7,236	5,404	749	1,082	482
New Mexico.....	7,824	7,314	9	6,889	9	6,899	6,250	157	492	425
Arizona.....	9,969	7,085	2,885	5,908	2,885	8,793	3,733	10	5,050	1,176
Utah.....	3,932	3,167	765	2,003	762	2,765	2,109	192	464	1,167
Nevada.....	3,018	1,402	1,617	1,275	1,616	2,892	1,323	3	1,566	127
Pacific.....	155,595	71,013	84,582	67,743	84,244	151,987	77,952	19,054	54,981	3,608
Washington.....	48,026	989	47,037	2 1	46,855	46,854	4,075	4,396	38,383	1,172
Oregon.....	15,549	542	15,007	6	14,941	14,947	4,502	354	10,091	602
California.....	88,385	66,287	22,098	65,104	22,098	87,202	66,962	14,047	6,193	1,183
Alaska.....	868	545	322	307	322	629	58	257	314	238
Hawaii.....	2,767	2,650	117	2,326	28	2,355	2,355	—	—	412

- Represents zero. Z Less than 500,000 kw.-hr.

¹ Includes Federal, State, public utility districts, and cooperatives. ² Deduct.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 763. WATER POWER—DEVELOPED, 1920 TO 1964, AND ESTIMATED UNDEVELOPED, 1964, BY STATES

[In thousands of kilowatts. As of December 31]

STATE	DEVELOPED WATER POWER (capacity of actual installations only)										Estimated undeveloped water power, 1964
	Electric utilities only		Electric utilities and industrial plants								
			1939		1950		1960		1964		
			1920	1930	Total	Utilities	Total	Utilities	Total	Utilities	
United States ¹	3,704	8,585	12,075	11,004	18,675	17,675	33,180	32,423	42,899	42,188	117,793
New England.....	291	753	1,115	833	1,239	971	1,520	1,255	1,498	1,247	3,125
Maine.....	40	174	301	188	391	270	495	351	493	349	1,660
New Hampshire.....	43	212	292	235	312	262	445	398	441	395	680
Vermont.....	49	156	173	158	192	177	199	186	198	185	345
Massachusetts.....	114	129	228	161	223	168	227	186	223	182	248
Rhode Island.....	2	2	14	3	11	3	3	2	3	2	-
Connecticut.....	44	79	107	88	107	89	151	132	139	133	183
Middle Atlantic.....	662	1,290	1,633	1,563	1,678	1,602	2,472	2,391	4,477	4,404	4,950
New York.....	540	1,074	1,229	1,165	1,225	1,155	2,028	1,952	4,035	3,966	1,617
New Jersey.....	1	1	6	3	9	6	8	6	8	6	241
Pennsylvania.....	120	215	399	395	444	441	436	433	434	431	3,092
East North Central.....	372	602	790	703	901	828	929	832	903	812	1,351
Ohio.....	17	13	16	12	16	12	9	6	3	2	252
Indiana.....	11	35	38	35	37	37	31	31	29	29	396
Illinois.....	43	50	51	49	54	49	42	38	41	39	206
Michigan.....	167	258	368	344	398	384	419	381	405	369	272
Wisconsin.....	134	247	318	263	396	347	427	376	424	373	225
West North Central.....	257	279	537	501	629	577	1,594	1,552	2,807	2,765	4,340
Minnesota.....	88	122	158	126	181	138	186	152	183	150	142
Iowa.....	138	124	127	127	137	137	136	136	136	136	382
Missouri.....	12	13	151	151	151	151	293	293	801	801	2,074
North Dakota.....	-	-	(Z)	-	-	-	400	400	400	400	195
South Dakota.....	5	4	4	4	11	3	333	324	1,043	1,035	596
Nebraska.....	7	11	87	86	142	142	240	240	238	238	648
Kansas.....	7	6	9	7	6	6	6	6	6	6	303
South Atlantic.....	589	1,603	2,224	1,803	2,767	2,297	3,773	3,592	4,973	4,794	10,017
Delaware.....	-	-	(Z)	-	-	-	1	-	-	-	-
Maryland.....	1	272	273	271	272	271	272	271	494	494	103
District of Columbia.....	-	2	3	2	3	3	3	3	3	3	-
Virginia.....	45	83	204	182	207	183	416	396	457	435	1,619
West Virginia.....	9	56	209	101	208	101	208	101	208	101	2,554
North Carolina.....	144	397	651	400	962	662	1,220	1,206	1,740	1,727	983
South Carolina.....	231	506	520	495	679	653	958	932	960	936	2,053
Georgia.....	155	271	349	337	425	412	653	640	1,069	1,056	2,538
Florida.....	4	14	14	14	13	13	42	42	42	42	107
East South Central.....	170	863	1,270	1,140	2,729	2,721	3,750	3,742	4,511	4,503	4,252
Kentucky.....	-	105	111	111	271	271	541	541	541	541	1,592
Tennessee.....	97	127	432	310	1,238	1,238	1,910	1,910	1,993	1,993	563
Alabama.....	72	632	727	719	1,220	1,212	1,299	1,291	1,977	1,969	1,943
Mississippi.....	-	-	-	-	-	-	-	-	-	-	154
West South Central.....	4	19	140	139	466	463	944	944	1,410	1,410	3,297
Arkansas.....	1	11	67	67	148	145	388	388	664	664	1,240
Louisiana.....	-	-	1	-	-	-	-	-	-	-	20
Oklahoma.....	1	2	2	2	74	74	165	165	355	355	866
Texas.....	2	6	71	71	245	245	391	390	390	390	1,162
Mountain.....	487	784	1,583	1,581	2,286	2,282	4,621	4,618	5,227	5,225	27,253
Montana.....	212	300	321	321	427	426	1,235	1,235	1,262	1,262	7,422
Idaho.....	135	225	257	257	441	440	1,251	1,250	1,251	1,251	10,594
Wyoming.....	2	12	47	47	79	79	189	189	213	213	1,101
Colorado.....	48	52	67	66	92	91	253	253	266	266	2,477
New Mexico.....	1	1	1	1	25	25	25	25	25	25	171
Arizona.....	23	87	293	293	541	541	980	980	1,318	1,318	4,251
Utah.....	58	98	93	92	94	94	100	100	210	209	1,207
Nevada.....	9	9	505	504	587	586	587	586	683	682	30
Pacific ¹	872	2,391	2,783	2,741	5,979	5,933	13,578	13,497	17,093	17,029	59,208
Washington.....	241	596	812	784	2,591	2,564	7,002	6,974	9,119	9,092	19,373
Oregon.....	65	156	286	278	783	766	2,434	2,414	3,012	2,992	5,707
California.....	566	1,640	1,685	1,680	2,606	2,604	4,054	4,052	4,861	4,859	13,335
Alaska.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	67	51	82	82	20,458
Hawaii.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	21	5	19	3	275

- Represents zero. NA Not available. Z Less than 500 kw.

¹ Prior to 1950, excludes Alaska and Hawaii.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 764. FEDERAL ELECTRIC UTILITY PROJECTS—INSTALLED CAPACITY AND INVESTMENT ALLOCATED TO ELECTRIC PLANT: 1955, 1960, AND 1964

[As of June 30. Prior to 1960, excludes Alaska and Hawaii. Comprises only the electricity generating plant of these projects and excludes projects not primarily manufacturing electricity (e.g., West Point, Annapolis). Investments represent allocation to power projects for capital equipment and improvements. Reserves for depreciation have not been deducted]

PROJECT GROUP OR SYSTEM	INSTALLED CAPACITY (1,000 kw.)			INVESTMENT ALLOCATED ¹ (\$1,000)		
	1955	1960	1964	1955	1960	1964
Total	15,033	22,616	27,633	3,811,843	5,397,699	7,002,854
Percent capacity of all electric utilities.....	13.1	13.5	12.8	(X)	(X)	(X)
Central Valley: Bureau of Reclamation.....	522	630	1,013	134,081	137,861	302,905
Columbia Basin.....	3,619	6,063	6,544	1,020,800	1,607,100	1,788,258
Bonneville Power Administration (transmission).....	-	-	-	368,914	479,913	574,694
Bureau of Reclamation.....	2,259	2,282	2,282	218,084	277,200	256,930
Corps of Engineers.....	1,360	3,781	4,262	433,602	849,987	956,034
Hoover and Parker-Davis: Bureau of Reclamation.....	1,595	1,595	1,690	205,598	208,635	215,852
Missouri Basin.....	687	1,142	2,024	369,577	681,373	995,047
Bureau of Reclamation.....	362	397	444	214,278	304,212	396,371
Corps of Engineers.....	325	745	1,580	155,299	357,161	598,676
Southeastern Power Administration.....	1,031	1,271	1,677	259,142	410,111	546,035
Southeastern Power Administration (transmission).....	-	-	-	63	88	103
Corps of Engineers.....	1,031	1,271	1,677	259,079	410,023	545,932
Southwestern Power Administration.....	426	601	978	144,629	230,192	282,113
Southwestern Power Administration (transmission).....	-	-	-	23,444	27,108	34,539
Corps of Engineers.....	426	601	978	121,185	203,084	247,574
Tennessee Valley Authority.....	7,005	11,032	13,301	1,634,057	2,054,316	2,591,336
Other projects.....	148	282	406	44,159	88,110	281,308
Bureau of Reclamation.....	83	218	342	20,483	61,941	255,120
Corps of Engineers.....	18	18	18	11,834	11,846	11,865
Bureau of Indian Affairs.....	15	14	14	6,342	7,602	7,602
International Boundary and Water Commission.....	32	32	32	5,500	6,721	6,721

- Represents zero. X Not applicable. ¹ Includes estimates.

Source: Federal Power Commission; unpublished data.

No. 765. RURAL ELECTRIFICATION ADMINISTRATION—ELECTRIC PROGRAM, SUMMARY OF OPERATIONS: 1940 TO 1965

[Includes data from date of first loan to borrowers in Virgin Islands (1940) and Puerto Rico (1952)]

ITEM	1940	1950	1955	1960	1962	1963	1964	1965 ¹
Loans approved, cumulative, Dec. 31: ²								
Borrowers ³	791	1,076	1,077	1,057	1,096	1,101	1,105	1,103
Amount.....mil. dol.....	351	2,312	3,125	4,256	4,786	5,078	5,477	5,793
Systems in operation, Dec. 31: ⁴								
Systems ⁵	685	1,007	1,026	1,038	1,042	1,046	1,051	1,051
Miles energized ⁶1,000.....	268	1,089	1,362	1,465	1,504	1,527	1,547	1,566
Consumers served ⁷1,000.....	674	3,413	4,251	4,826	5,095	5,238	5,386	5,531
Borrowers' operations during year: ⁸								
Energy generated.....mil. kw.-hr.....	(NA)	1,077	3,255	4,922	6,043	7,002	8,039	8,511
Energy purchased.....mil. kw.-hr.....	(NA)	7,270	14,996	26,057	30,134	33,005	36,907	39,557
Energy sold.....mil. kw.-hr.....	(NA)	6,884	15,739	27,269	31,880	35,357	39,837	42,560
Revenue.....mil. dol.....	(NA)	229	420	615	697	746	802	847
Average monthly consumption per consumer:								
All consumers.....kw.-hr.....	(NA)	180	306	466	526	565	616	649
Residential consumers ⁹kw.-hr.....	(NA)	147	242	357	401	425	456	481
Total utility plant.....mil. dol.....	(NA)	(NA)	2,706	3,697	4,104	4,406	4,696	4,900
Employees.....	(NA)	(NA)	(NA)	(NA)	29,046	29,816	30,779	31,500

NA Not available. ¹ Preliminary, except loans approved.

² Net; i.e., excludes loans rescinded. For 1940, excludes amounts not yet under loan contract.

³ Organizations, mainly cooperatives, to which loans for extending central station electric service in rural areas are made.

⁴ Includes data at time of repayment of loan for borrowers whose loans have been repaid in full. As of Dec. 31, 1965, there were 61 such borrowers, with 22,197 miles energized and 120,200 consumers served.

⁵ Rural electric distribution, generation, and transmission systems operated by REA borrowers.

⁶ Pole miles of electric distribution and transmission line in service.

⁷ Through 1954, this item was headed "Consumers connected." The change was a result of a revised definition of a consumer as reported by REA borrowers, effective Jan. 1, 1955. It resulted in a downward adjustment in the national total of about 60,000 for 1955, chiefly through elimination of idle services.

⁸ Excludes energy sales and revenues of power sold by one REA borrower to another.

⁹ Includes rural-nonfarm and farm consumers.

Source: Dept. of Agriculture, Rural Electrification Administration; *Annual Statistical Report—Rural Electrification Borrowers*.

No. 766. CONSUMPTION OF FUELS BY ELECTRIC UTILITIES: 1940 TO 1965

[For years ending December 31. Prior to 1963, excludes Alaska and Hawaii. Includes use of fuels for stand-by purposes. See also *Historical Statistics, Colonial Times to 1957*, series S 36-43]

YEAR	Net generation by fuel ¹	FUEL CONSUMED								
		Total coal equivalent	Coal			Oil	Gas	Per kilowatt-hour		
			Total ²	Bituminous ²	Anthracite			Coal	Oil	Gas
	Mil. kw.-hr.	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 42-gal. bbl.	Mil. cu. ft.	Lb.	Gal.	Cu. ft.
1940.....	93,963	62,942	51,474	49,126	2,348	16,325	180,096	1.34	0.112	16.5
1945.....	142,331	92,642	74,725	71,603	3,122	20,228	326,212	1.30	0.109	16.5
1950.....	232,813	138,421	91,871	88,262	3,609	75,420	628,919	1.19	0.094	14.1
1955.....	433,786	266,929	143,759	140,550	3,209	75,274	1,153,280	0.95	0.085	12.1
1960.....	607,142	266,064	176,634	173,882	2,751	85,340	1,724,762	0.88	0.078	10.9
1962.....	684,032	293,573	193,238	190,941	2,297	85,768	1,965,974	0.858	0.077	10.7
1963.....	751,038	321,341	211,332	209,193	2,139	93,314	2,144,473	0.856	0.075	10.6
1964.....	806,917	345,666	225,425	223,186	2,239	101,141	2,322,896	0.857	0.075	10.6
1965 (prel.)..	861,342	369,323	244,886	242,727	2,158	115,210	2,318,252	0.858	0.075	10.5

¹ Beginning 1962, includes limited output by use of wood, waste, and nuclear fuel.

² Includes lignite.

³ Includes nuclear power kw.-hr. (in millions), 2,270 in 1962, 3,212 in 1963, 3,343 in 1964, and 3,644 in 1965; and wood, waste and geothermal kw.-hr. (in millions), 229 in 1962, 296 in 1963, 352 in 1964, and 472 in 1965.

Source: Federal Power Commission; annual summaries and related monthly reports.

No. 767. ELECTRIC UTILITIES—BALANCE SHEET AND INCOME ACCOUNT OF PRIVATELY OWNED CLASS A AND B COMPANIES: 1940 TO 1964

[In millions of dollars. For years ending December 31. Prior to 1960, excludes Alaska and Hawaii. Data cover reports of all companies with annual electric revenues over \$1 million representing about 98 percent of the investor-owned industry. See also *Historical Statistics, Colonial Times to 1957*, series V 128-142]

ITEM	1940	1945	1950	1955	1960	1963	1964
COMPOSITE BALANCE SHEET							
Assets and other debits.....	15,477	14,452	20,523	30,992	44,742	51,389	53,753
Electric utility plant.....	10,447	12,176	18,956	30,307	45,456	53,475	56,327
Accumulated provisions for depreciation and amortization.....	(NA)	(NA)	5,852	5,713	8,839	11,511	12,876
Net electric utility plant.....	(NA)	(NA)	15,124	24,594	36,567	41,964	43,752
Other utility plant.....	3,960	2,315	2,485	3,402	4,852	5,813	6,189
Accumulated provisions for depreciation and amortization.....	(NA)	(NA)	534	678	963	1,811	1,897
Net other utility plant.....	(NA)	(NA)	1,951	2,724	3,889	4,602	4,892
Total utility plant.....	14,407	14,491	21,441	33,709	50,308	59,288	62,516
Accumulated provisions for depreciation and amortization.....	1,913	3,045	4,366	6,391	9,852	12,722	13,872
Net total utility plant.....	12,494	11,446	17,075	27,318	40,456	46,566	48,644
Other property and investments.....	1,380	1,090	1,237	933	1,004	1,149	1,211
Current and accrued assets.....	1,123	1,672	2,058	2,567	3,066	3,411	3,634
Deferred debits.....	480	244	153	174	216	263	264
Liabilities and other credits.....	15,477	14,452	20,523	30,992	44,742	51,389	53,753
Capital stock.....	6,471	5,950	7,621	10,404	13,322	15,074	15,621
Other paid-in capital ²	255	282	589	1,083	1,747	1,990	2,148
Earned surplus.....	860	766	1,346	2,191	3,736	4,640	5,142
Long-term debt.....	6,895	6,118	9,179	14,316	21,035	23,632	24,689
Current and accrued liabilities.....	692	965	1,527	2,381	3,112	3,619	3,736
Deferred credits and operating reserves.....	261	325	195	247	277	461	475
Contributions in aid of construction.....	43	46	66	109	188	236	262
Accumulated deferred income taxes.....	-	-	-	261	1,325	1,737	1,780
COMPOSITE INCOME ACCOUNTS							
Electric operating revenues.....	2,404	3,171	4,784	7,199	10,116	12,018	12,673
Electric operating expenses.....	1,667	2,408	3,828	5,702	7,917	9,249	9,796
Net electric operating revenues.....	737	763	956	1,497	2,199	2,769	2,877
Income from electric plant leased to others.....	7	5	5	3	2	2	2
Electric utility operating income.....	744	768	961	1,500	2,201	2,771	2,879
Other utility operating income.....	61	65	72	120	196	251	277
Total utility operating income.....	805	833	1,033	1,620	2,397	3,022	3,156
Other income.....	68	54	68	63	79	85	121
Total income.....	873	887	1,101	1,683	2,476	3,107	3,277
Income deductions.....	325	353	279	439	693	929	884
Net income.....	548	534	822	1,244	1,783	2,178	2,393

- Represents zero. NA Not available.

¹ Includes amounts unclassified as to utility departments: \$2,309 million in 1940 and \$491 million in 1945.

² Includes premium on capital stock, capital stock discount and expense, other capital stock items, and re-acquired capital stock.

Source: Federal Power Commission; annual report, *Statistics of Electric Utilities in the United States*.

No. 768. ELECTRIC LIGHT AND POWER INDUSTRY—ENERGY GENERATED, SALES, REVENUE, AND CUSTOMERS: 1940 TO 1965

[Prior to 1960, excludes Alaska and Hawaii]

CLASS	1940	1950	1955	1960	1964	1965
Energy generated ¹mil. kw.-hr.	141,837	329,141	547,038	756,296	983,990	1,054,790
Sales to ultimate customers ²mil. kw.-hr.	118,643	280,539	480,921	683,199	890,356	953,414
Residential or domestic.....mil. kw.-hr.	23,317	67,030	120,524	196,400	262,010	280,970
Commercial and industrial:						
Small light and power.....mil. kw.-hr.	22,373	50,446	76,254	114,806	183,539	202,112
Large light and power.....mil. kw.-hr.	59,557	139,065	253,711	344,799	409,356	433,365
All other.....mil. kw.-hr.	11,405	16,598	19,681	27,194	35,451	36,967
Revenue from ultimate customers ³mil. dol.	2,440	5,086	8,020	11,516	14,408	15,158
Residential or domestic.....mil. dol.	896	1,932	3,187	4,856	6,041	6,329
Commercial and industrial:						
Small light and power.....mil. dol.	689	1,334	1,909	2,828	4,028	4,313
Large light and power.....mil. dol.	631	1,405	2,360	3,334	3,733	3,884
All other.....mil. dol.	174	258	336	498	606	632
Ultimate customers, Dec. 31 ³1,000-	30,191	44,985	52,559	58,870	64,149	65,558
Residential or domestic.....1,000-	24,952	37,533	44,409	51,446	56,307	57,596
Commercial and industrial:						
Small light and power.....1,000-	4,260	5,466	6,020	6,760	7,294	7,420
Large light and power.....1,000-	178	235	311	454	318	310
All other.....1,000-	115	157	171	210	230	232

¹ Figures obtained by Edison Electric Institute from Federal Power Commission.² Preliminary.³ For 1940 to 1955, rural included in total only; thereafter, allocated to appropriate other classes of service.Source: Edison Electric Institute, New York, N.Y.; *Statistical Year Book*.

No. 769. GAS UTILITY AND PIPELINE INDUSTRY—BALANCE SHEET AND INCOME ACCOUNT: 1940 TO 1964

[In millions of dollars. Prior to 1960, excludes Hawaii, and 1961, Alaska. Represents companies owned by private investors. Excludes operations of companies distributing gas in bottles or in tanks]

ITEM	1940	1945	1950	1955	1960	1962	1963	1964
COMPOSITE BALANCE SHEET								
Assets and other debits	4,980	5,610	9,010	15,435	24,570	28,500	29,535	31,000
Utility plant and adjustments.....	4,330	4,770	7,620	13,305	20,835	23,940	25,055	26,410
Investment and fund accounts.....	200	185	360	525	1,380	1,705	1,660	1,775
Current and accrued assets.....	360	590	970	1,465	2,185	2,650	2,610	2,605
Deferred debits ¹	90	65	60	140	170	205	210	210
Liabilities and other credits	4,980	5,610	9,010	15,435	24,570	28,500	29,535	31,000
Capital stock.....	1,740	1,705	2,405	3,905	5,785	6,645	6,765	6,985
Long-term debt.....	1,575	1,495	3,145	5,900	9,130	10,450	10,605	11,070
Current and accrued liabilities.....	245	350	735	1,390	2,420	2,890	2,940	2,850
Reserve for depreciation, retirement, depletion, etc.....	870	1,400	1,740	2,775	4,570	5,615	6,045	6,615
Capital surplus.....	(NA)	120	135	200	145	100	120	100
Retained income.....	(NA)	375	720	1,040	1,880	2,000	2,140	2,415
Other liabilities and credits.....	550	165	130	225	640	800	920	965
COMPOSITE INCOME ACCOUNT								
Operating revenues.....	1,054	1,363	2,553	5,063	8,696	10,019	10,435	11,074
Operating revenue deductions.....	839	1,152	2,182	4,398	7,587	8,745	9,136	9,701
Net operating revenues.....	215	211	371	665	1,109	1,274	1,299	1,373
Income from utility plant leased to others.....	-1	(Z)	1	2	3	6	6	7
Utility operating income.....	214	211	372	667	1,112	1,280	1,305	1,380
Other income (nonoperating).....	9	15	33	48	110	136	104	179
Gross income.....	223	226	405	715	1,222	1,416	1,409	1,559
Income deductions.....	78	74	88	206	392	509	519	496
Net income.....	145	152	317	509	830	907	890	1,063

NA Not available. Z Less than \$500,000.

¹ Includes capital stock discount and expense and reacquired securities. Beginning 1960, reacquired securities are deducted from the appropriate capital account.Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

No. 770. GAS UTILITY INDUSTRY—CUSTOMERS, SALES, AND REVENUES, BY CLASS OF SERVICE: 1940 TO 1965

[Prior to 1960, excludes Hawaii, and 1961, Alaska. Covers natural, manufactured, mixed, and liquid petroleum gas. Based on questionnaire mailed to all privately owned gas utilities and municipally owned gas departments in the United States, except those with annual revenues less than \$25,000, which in the aggregate account for only a negligible portion of the industry]

ITEM	1940	1945	1950	1955	1960	1961	1962	1963	1964	1965 (prel.)
Customers ¹1,000.....	17,600	19,977	24,001	28,479	33,054	33,831	34,683	35,551	36,463	37,361
Residential.....	16,381	18,607	22,146	26,283	30,418	31,118	31,893	32,711	33,551	34,346
Commercial.....	1,138	1,278	1,739	2,048	2,458	2,529	2,598	2,640	2,712	2,806
Industrial.....	73	80	99	121	141	147	156	162	169	168
Other.....	8	13	17	28	37	37	37	39	41	41
Sales.....mil. therms ²	17,235	25,868	42,090	66,586	92,876	95,889	102,348	107,663	115,912	120,846
Residential.....	5,823	7,749	13,839	22,387	31,881	33,210	35,369	36,680	38,697	40,400
Commercial.....	1,598	2,497	4,104	6,029	9,198	9,881	10,929	11,866	12,735	13,840
Industrial.....	9,544	14,823	22,887	35,351	47,094	47,856	51,001	54,881	59,120	61,237
Other.....	271	1,098	1,261	2,819	4,704	4,943	5,049	5,236	5,360	5,369
Revenues ³mil. dol.....	872	1,153	1,948	3,450	5,617	5,993	6,445	6,727	7,133	7,417
Residential.....	573	705	1,177	2,007	3,177	3,377	3,603	3,728	3,895	4,044
Commercial.....	112	149	266	424	723	789	874	910	998	1,080
Industrial.....	182	281	480	938	1,563	1,658	1,796	1,906	2,049	2,109
Other.....	5	18	26	81	153	169	171	183	191	184

¹ Yearly averages.

² A therm is equivalent to 100,000 British thermal units. (A B.t.u. is the quantity of heat required to raise the temperature of 1 pound of water 1° F. at or near its point of maximum density.)

³ Excludes revenues from sales for resale.

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

No. 771. UTILITY GAS MAINS—MILEAGE, BY TYPE OF GAS AND TYPE OF MAIN: 1945 TO 1965

[As of December 31. Prior to 1960, excludes Hawaii, and 1961, Alaska. Excludes service pipe. Data not adjusted to common diameter equivalent]

TYPE OF GAS AND MAIN	1945	1950	1955	1960	1961	1962	1963	1964	1965 (prel.)
All types.....	310,670	387,470	496,740	630,950	658,960	683,230	709,940	736,220	765,490
Field and gathering.....	27,000	32,850	45,680	55,850	56,730	58,680	60,720	61,010	63,100
Transmission.....	82,190	113,050	145,970	183,660	191,840	196,380	200,940	205,400	210,900
Distribution.....	201,480	241,570	305,090	391,440	410,390	428,170	448,280	469,810	491,490
Natural gas.....	218,000	314,480	448,770	607,980	637,120	663,560	694,360	724,510	754,370
Field and gathering.....	27,000	32,850	45,680	55,850	56,730	58,680	60,720	61,010	63,100
Transmission.....	77,280	109,360	142,490	181,770	189,990	194,970	200,020	204,730	210,340
Distribution.....	113,720	172,270	260,600	370,360	390,400	409,910	433,620	458,770	480,930
Manufactured gas.....	72,000	55,420	11,960	1,570	1,510	1,500	1,490	1,460	1,460
Transmission.....	3,410	2,230	420	20	30	20	(Z)	(Z)	(Z)
Distribution.....	68,590	53,190	11,540	1,550	1,480	1,480	1,490	1,460	1,460
Mixed gas.....	18,660	11,990	31,440	19,450	18,450	16,460	12,810	8,980	8,310
Transmission.....	1,480	1,370	2,990	1,860	1,810	1,380	920	670	560
Distribution.....	17,180	10,620	28,450	17,590	16,640	15,080	11,890	8,310	7,750
Liquefied petroleum gas.....	2,010	5,580	4,570	1,950	1,880	1,710	1,280	1,270	1,260
Transmission.....	20	90	70	10	10	10	—	—	—
Distribution.....	1,990	5,490	4,500	1,940	1,870	1,700	1,280	1,270	1,260

— Represents zero.

Z Less than 5 miles.

Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

**NO. 772. GAS UTILITY INDUSTRY—CUSTOMERS AND REVENUES, BY TYPE OF GAS,
CLASS OF SERVICE, AND STATES: 1964**

[See headnote, table 770]

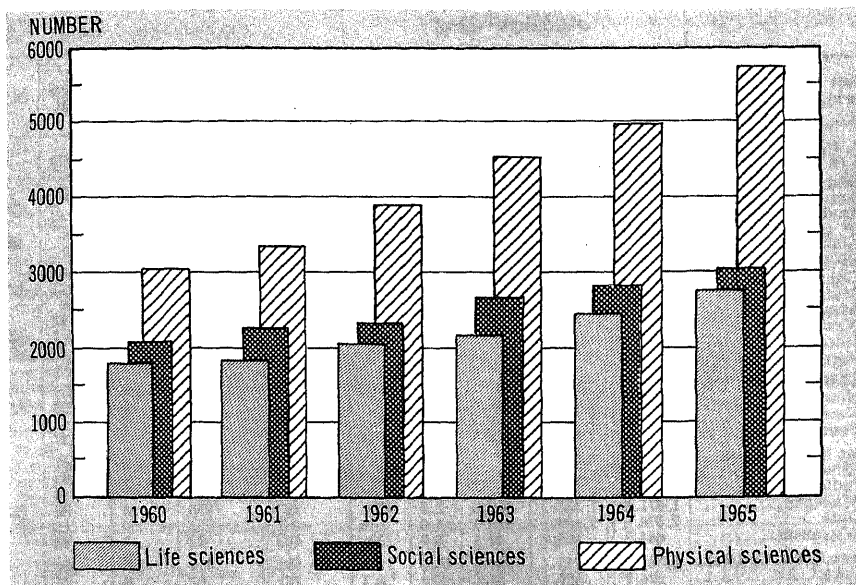
TYPE OF GAS AND STATE	CUSTOMERS ¹ (1,000)					REVENUES ² (mil. dol.)				
	Total	Resi- dential	Com- mer- cial	Indus- trial	Other	Total	Resi- dential	Com- mer- cial	Indus- trial	Other
United States ³	36,463.3	33,551.2	2,712.2	159.4	40.5	7,133	3,895	998	2,049	191
Natural gas ⁴	35,434.9	32,593.2	2,645.9	156.2	39.6	6,960	3,772	976	2,022	190
Manufactured gas	133.5	123.7	8.9	0.8	0.1	19	13	3	3	(Z)
Mixed gas	830.9	775.4	52.4	2.3	0.8	146	104	18	24	1
L.P. gas	64.0	58.9	5.0	0.1	(Z)	7	5	2	(Z)	(Z)
New England	1,634.3	1,529.4	94.2	9.8	0.9	262	190	39	31	3
Connecticut	377.3	351.2	23.7	2.3	0.1	63	43	9	11	(Z)
Maine	29.3	27.8	1.4	0.1	—	4	3	1	(Z)	—
Massachusetts	1,019.0	954.2	58.5	5.6	0.7	163	122	24	15	2
New Hampshire	39.8	36.9	2.6	0.2	0.1	7	5	1	1	(Z)
Rhode Island	154.2	145.2	7.4	1.6	(Z)	24	17	3	3	(Z)
Vermont	14.7	14.1	0.6	(Z)	—	1	1	(Z)	(Z)	—
Middle Atlantic	7,860.8	7,280.5	540.3	29.1	10.9	1,278	841	187	234	15
New Jersey	1,617.0	1,464.0	147.0	6.0	(Z)	253	176	43	33	(Z)
New York	4,053.3	3,761.0	269.2	15.0	8.1	544	380	89	65	11
Pennsylvania	2,190.5	2,055.5	124.1	8.1	2.8	481	285	55	137	5
East North Central	8,158.3	7,545.8	571.6	33.6	7.3	1,858	1,099	275	467	17
Illinois	2,563.3	2,393.4	155.8	13.8	0.3	534	334	74	125	1
Indiana	902.3	822.7	76.0	3.2	0.4	202	103	28	70	1
Michigan	1,671.6	1,635.2	128.6	7.8	(Z)	399	250	64	86	(Z)
Ohio	2,376.8	2,196.1	169.1	5.0	6.6	581	331	90	150	10
Wisconsin	644.3	598.4	42.1	3.8	(Z)	143	82	19	36	5
West North Central	2,989.3	2,713.1	256.5	18.9	0.8	664	351	105	196	11
Iowa	524.7	469.4	53.6	1.6	0.1	121	67	24	27	3
Kansas	575.4	523.6	48.1	3.6	0.1	122	48	13	58	3
Minnesota	543.0	500.8	38.1	4.0	0.1	144	83	21	40	1
Missouri	905.5	833.1	68.1	4.1	0.2	177	103	27	44	3
Nebraska	322.6	282.0	35.2	5.2	0.2	74	36	12	23	2
North Dakota	45.6	40.2	5.3	0.1	(Z)	9	5	3	1	(Z)
South Dakota	72.5	64.0	8.1	0.3	0.1	16	9	4	3	(Z)
South Atlantic	2,891.6	2,648.5	224.6	12.1	6.4	616	325	88	193	10
Delaware	71.1	66.8	4.2	0.1	(Z)	15	9	2	4	(Z)
Dist. of Columbia	174.0	153.8	17.8	0.9	1.5	29	20	8	(Z)	1
Florida	282.3	260.8	20.5	0.4	0.6	71	18	12	40	1
Georgia	640.5	590.5	45.7	3.9	0.4	126	67	16	42	1
Maryland	621.0	579.0	38.7	2.5	0.8	112	80	12	20	1
North Carolina	180.1	157.5	20.6	1.9	0.1	51	21	8	21	1
South Carolina	141.0	124.7	15.1	0.7	0.5	40	14	5	21	(Z)
Virginia	418.4	384.0	32.3	1.1	1.0	87	54	14	17	3
West Virginia	363.2	331.4	29.7	0.6	1.5	84	43	10	29	2
East South Central	1,648.9	1,491.0	146.6	5.1	6.2	363	159	52	142	11
Alabama	512.5	475.2	34.8	1.1	1.4	112	51	13	48	(Z)
Kentucky	489.8	445.2	42.3	0.8	1.5	94	53	14	23	3
Mississippi	301.7	268.4	30.4	1.5	1.4	69	22	7	37	3
Tennessee	344.9	302.2	39.1	1.7	1.9	88	33	18	33	5
West South Central	4,239.8	3,836.1	366.9	31.8	5.0	783	286	74	399	25
Arkansas	351.8	308.7	40.8	2.2	0.1	79	27	10	41	1
Louisiana	786.4	725.6	56.9	3.0	0.9	165	47	10	105	3
Oklahoma	637.0	574.0	59.1	3.7	0.2	99	49	14	28	8
Texas	2,464.6	2,227.8	210.1	22.9	3.8	440	163	40	224	13
Mountain	1,539.0	1,373.3	157.1	5.7	2.9	318	147	53	108	10
Arizona	364.3	329.6	32.5	1.5	0.7	66	27	9	27	3
Colorado	471.5	415.0	55.8	0.6	0.1	87	43	21	21	2
Idaho	50.6	41.6	8.3	0.4	0.3	19	6	4	9	(Z)
Montana	133.0	117.9	14.5	0.6	(Z)	30	14	7	8	1
Nevada	43.6	41.4	2.1	0.1	(Z)	15	6	2	8	(Z)
New Mexico	197.9	177.2	17.3	1.9	1.5	43	18	5	17	3
Utah	204.8	186.0	17.8	0.4	(Z)	43	26	3	14	(Z)
Wyoming	73.3	64.0	8.8	0.2	0.3	14	7	3	4	(Z)
Pacific ³	5,501.3	5,133.5	354.4	13.3	0.1	990	496	127	278	90
California	4.7	3.8	0.7	0.2	(Z)	4	1	1	1	1
Oregon	5,152.6	4,830.9	311.0	10.6	0.1	876	451	105	232	89
Washington	36.7	34.2	2.0	0.5	—	6	3	1	2	—
Alaska ⁴	133.6	116.9	15.6	1.1	(Z)	39	17	7	15	(Z)
Hawaii	173.7	147.7	25.1	0.9	(Z)	65	24	13	29	(Z)

— Represents zero. Z Customers, less than 50; revenues, less than \$500,000.

¹ Averages for the year. ² Excludes revenues from sales for resale.³ Natural gas only included for Alaska. ⁴ Natural gas only.Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

Fig. XXXIV. SCIENCE DOCTORATES CONFERRED, BY FIELD: 1960 TO 1965

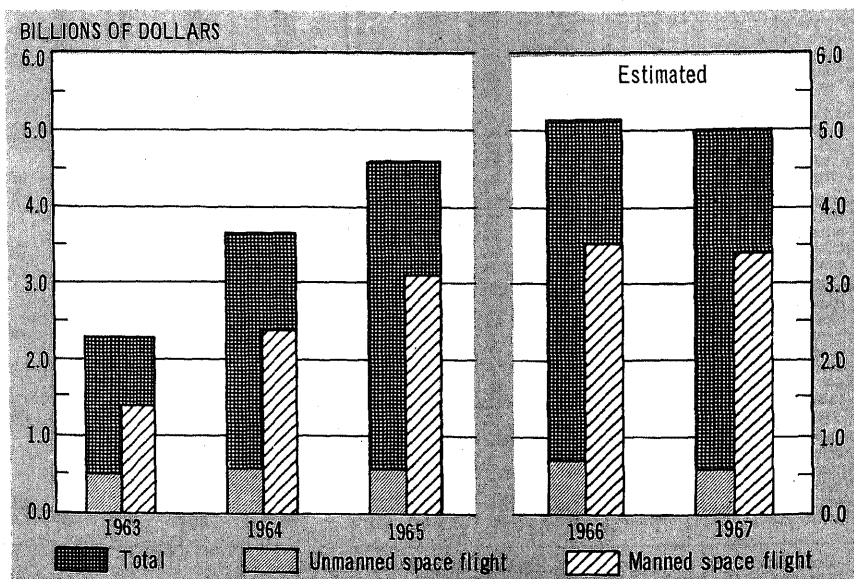
[See table 789]



Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from National Science Foundation.

Fig. XXXV. NASA EXPENDITURES FOR RESEARCH AND DEVELOPMENT: 1963 TO 1967

[See table 790]



Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from National Aeronautics and Space Administration.

Section 20

Science

This section presents statistics relating to various aspects of scientific and technical activity. Major topics are research and development, training and employment of scientists and engineers, atomic energy, space vehicles, and patents and trademarks. Principal sources of these data are the National Science Foundation, the Atomic Energy Commission, and the National Aeronautics and Space Administration.

The National Science Foundation gathers data chiefly through recurring statistical surveys and the National Register of Scientific and Technical Personnel (see below). Current Foundation publications containing data on funds for research and development and on scientific and engineering personnel include the bulletin series, *Reviews of Data on Science Resources*; the regular reports, *Federal Funds for Research, Development, and Other Scientific Activities*; *Basic Research, Applied Research, and Development in Industry*, and *American Science Manpower*; occasional reports relating to colleges and universities, and other nonprofit institutions; special reports such as *Scientific Manpower From Abroad*; and policy reports relating to national allocation of manpower and funds to science and technology. Statistical surveys in these areas pose particularly difficult problems of concept and definition and the data should, therefore, be regarded as broad estimates rather than precise quantitative statements. Detailed discussions of the scope and limitations of the data appear in the source publications.

Neither the National Aeronautics and Space Administration nor the Atomic Energy Commission publish any statistical reports as such. NASA's *Semiannual Report* contains current data on finances and its biweekly *Satellite Situation Report* presents information on artificial satellites, including both objects in orbit and decayed objects; and its one-page *Space Activities Summary*, issued for each space vehicle it launches, gives data on the launching vehicle, its payload, and its performance. The Atomic Energy Commission's annual and semiannual reports contain data on atomic energy, equipment, finances, and licenses.

Other sources of statistics on scientific and technical activities include *The Budget of the United States Government*, which contains summary financial data on all Federal research and development programs; the report series *Resources for Medical Research*, issued by the Public Health Service of the Department of Health, Education, and Welfare, and designed to present timely information on funds, manpower, facilities, and institutions devoted to medical and health-related research; and the *Annual Report of the Commissioner of Patents*, issued by the Department of Commerce's Patent Office and presenting data on patent applications and issuances and on trademark registrations and renewals.

Research and development.—The National Science Foundation defines research as a "systematic and intensive study directed toward a fuller knowledge of the subject studied" and development as "the systematic use of scientific knowledge directed toward the production of useful materials, devices, systems, methods, or processes." The data on funds are presented within the framework of a national economic structure composed of four sectors: (1) The *government sector*, made up primarily of Federal executive agencies; (2) the *industry sector*, consisting of manufacturing and nonmanufacturing firms and the Federal contract research centers they administer; (3) the *colleges and universities sector*, composed of colleges, universities, and their affiliated institutions, agricultural experiment stations and associated schools of agriculture, and

Federal contract research centers administered by educational institutions; and (4) the *other nonprofit institutions sector*, consisting of such organizations as private philanthropic foundations, nonprofit research institutes, voluntary health agencies, and Federal contract research centers administered by nonprofit organizations. Federal contract research centers are research and development organizations which are exclusively or substantially financed by the Federal government and which, in most instances, were originally established to meet a particular R&D need of the Government. They are administered on a contractual basis, by companies, educational institutions, or other nonprofit organizations. The R&D funds reported consist of current operating costs, including those for planning and administration, except as otherwise noted. They exclude funds for routine testing, mapping and surveying, collection of general-purpose data, dissemination of scientific information, and training of scientific manpower.

Scientists, engineers, and technicians.—Scientists and engineers are defined as persons engaged in scientific and engineering work at a level requiring a knowledge of sciences equivalent at least to that acquired through completion of a 4-year college course. They are generally classified according to the fields of their employment and not according to the discipline in which they received their major training. Technicians are defined as persons engaged in technical work at a level requiring knowledge acquired through a technical institute, junior college, or other type of training less extensive than 4-year college training. Craftsmen and skilled workers are excluded. The National Register of Scientific and Technical Personnel is a comprehensive program, conducted by the National Science Foundation, for the voluntary registration of scientists. Because it is voluntary, the Register does not include all scientists in the United States but it does provide valuable statistical information on demographic and other characteristics of scientists not available elsewhere. Coverage is currently being extended to engineers.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

NO. 773. FEDERAL OBLIGATIONS FOR RESEARCH AND DEVELOPMENT, BY CHARACTER OF WORK AND, FOR RESEARCH, BY FIELD OF SCIENCE: 1958 TO 1966

[In millions of dollars. For years ending June 30. Includes both intramural and extramural performance; excludes R&D plant. For explanation of the difference between obligations reported here and expenditures reported in table 776, see headnote, table 776]

ITEM	1953	1959	1960	1961	1962	1963	1964	1965 est.	1966 est.
Total research and development	4,569	6,687	7,545	9,053	10,282	12,464	14,133	14,828	15,280
Basic research	336	519	612	827	1,110	1,395	1,574	1,808	2,049
Applied research	780	928	1,367	1,838	2,212	2,666	2,967	3,249	3,558
Development	3,452	5,240	5,567	6,388	6,960	8,373	9,592	9,772	9,673
Total research	1,116	1,447	1,979	2,665	3,323	4,091	4,541	5,057	5,607
Life sciences	345	424	518	638	822	937	1,065	1,213	1,343
Medical sciences	216	271	343	444	605	674	763	844	931
Biological sciences	70	89	107	130	146	186	223	269	308
Agricultural sciences	59	64	68	63	71	76	80	100	104
Psychological sciences	(NA)	26	39	52	57	72	96	117	142
Physical sciences	731	931	1,352	1,796	2,188	2,903	3,196	3,472	3,817
Physical sciences, proper	342	469	613	865	1,035	1,344	1,597	1,709	1,878
Engineering sciences	374	443	713	889	1,087	1,471	1,501	1,659	1,811
Mathematical sciences	15	19	26	41	66	89	98	104	128
Social sciences	41	31	35	45	63	80	103	129	156
Other sciences	(NA)	35	34	134	193	99	81	125	150

NA Not available.

Source: National Science Foundation; annual report, *Federal Funds for Research, Development, and Other Scientific Activities*.

NO. 774. FUNDS FOR PERFORMANCE OF RESEARCH AND DEVELOPMENT AND BASIC RESEARCH, BY SECTOR, DISTRIBUTED BY SOURCE: 1954 TO 1964

In millions of dollars. The data are primarily on a calendar year basis—data for calendar year 1954 for industry and other nonprofit institutions are combined with Federal and university data for fiscal 1954 (1953-54). The same pattern is followed for subsequent years. Data refer in general to the natural sciences including engineering; however, some funds for psychology and the social sciences could not be eliminated. The major portion of funds excludes capital expenditures for research and development. Expenditures at Federal contract research centers administered by industry, colleges and universities, and other nonprofit institutions are included in the totals of the respective sectors]

PERFORMANCE SECTOR AND SOURCE OF FUNDS ¹	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963 (prel.)	1964 (prel.)
RESEARCH AND DEVELOPMENT ²											
Total funds used.....	5,660	6,200	8,370	9,810	10,810	12,430	13,620	14,350	15,480	17,240	18,780
Federal Government.....	1,020	950	1,090	1,280	1,440	1,730	1,830	1,890	2,220	2,400	2,830
Federal funds.....	1,020	950	1,090	1,280	1,440	1,730	1,830	1,890	2,220	2,400	2,830
Industry.....	4,070	4,640	6,610	7,730	8,390	9,620	10,510	10,910	11,460	12,690	13,350
Federal funds.....	1,750	2,180	3,330	4,330	4,760	5,640	6,080	6,240	6,430	7,280	7,600
Industry funds.....	2,320	2,460	3,280	3,400	3,630	3,980	4,430	4,670	5,030	5,410	5,750
Colleges and universities.....	450	480	530	650	780	840	1,000	1,200	1,400	1,700	2,100
Federal funds.....	280	300	330	415	530	580	730	905	1,075	1,335	1,625
Industry funds.....	20	20	20	25	30	30	30	35	35	40	40
College and university funds ³	130	140	155	180	190	190	200	210	230	260	360
Other nonprofit institutions funds ³	20	20	25	30	30	40	40	50	60	65	75
Other nonprofit institutions.....	120	130	140	150	200	240	280	350	400	450	500
Federal funds.....	70	70	70	80	115	155	190	255	300	350	380
Industry funds.....	25	30	30	30	35	35	35	40	40	40	50
Other nonprofit institutions funds ³	25	30	40	40	50	50	55	55	60	60	70
BASIC RESEARCH											
Total funds used.....	455	517	619	721	882	992	1,135	1,324	1,575	1,815	2,340
Federal Government.....	47	55	65	90	115	155	147	190	220	275	368
Federal funds.....	47	55	65	90	115	155	147	190	220	275	368
Industry.....	166	189	253	271	305	332	388	407	471	500	582
Federal funds.....	(NA)	(NA)	(NA)	41	53	84	91	93	144	150	187
Industry funds.....	(NA)	(NA)	(NA)	230	252	248	297	314	327	350	395
Colleges and universities.....	208	230	250	300	392	420	500	575	695	840	1,160
Federal funds.....	119	129	144	173	240	256	305	350	442	530	770
Industry funds.....	11	11	11	12	14	17	20	23	25	30	30
College and university funds ³	62	70	75	90	111	118	140	161	180	220	300
Other nonprofit institutions funds ³	16	20	20	25	27	29	35	41	48	60	60
Other nonprofit institutions.....	34	43	51	60	70	85	100	152	180	200	230
Federal funds.....	15	20	25	30	35	42	50	80	95	105	140
Industry funds.....	4	5	5	5	6	7	8	11	15	20	30
Other nonprofit institutions funds ³	15	18	21	25	29	36	42	61	70	75	60

NA Not available. ¹ Data on sources of funds are based on reports by the performers.

² Includes basic research, applied research, and development. ³ Includes State and local government funds received by these institutions and used for research and development.

Source: National Science Foundation; *Reviews of Data on Science Resources*, Vol. 1, No. 4, 1965, and unpublished data.

NO. 775. FUNDS FOR PERFORMANCE OF INDUSTRIAL RESEARCH AND DEVELOPMENT, BY CHARACTER OF WORK, 1960 TO 1964, AND BY SELECTED INDUSTRY, 1964

[In millions of dollars. Includes performance of Federal contract research centers administered by industrial firms, classified by industry of the administering company. Excludes performance by certain industry-oriented organizations, such as trade associations, that account annually for less than 1 percent of the total. Excludes funds for R&D capital and the social sciences]

YEAR AND INDUSTRY	Total	RESEARCH			Development
		Total	Basic	Applied	
1960.....	10,509	2,417	388	2,029	8,092
1961.....	10,908	2,384	407	1,977	8,525
1962.....	11,464	2,949	500	2,449	8,515
1963.....	12,630	2,995	535	2,457	9,638
1964.....	13,353	3,190	582	2,608	10,163
Chemical and allied products.....	1,284	(NA)	161	(NA)	(NA)
Petroleum refining and extraction ¹	337	205	52	153	132
Electrical equipment and communication ²	2,635	513	143	370	2,122
Aircraft and missiles.....	5,097	850	59	791	4,247
All other.....	4,000	(NA)	167	(NA)	(NA)

NA Not available. ¹ Excludes geological and geophysical exploration activities of petroleum companies.

² These 2 industries have been combined because of the similarity of their research and development activities.

Source: National Science Foundation; annual report, *Basic Research, Applied Research, and Development in Industry*.

No. 776. FEDERAL OBLIGATIONS AND EXPENDITURES FOR RESEARCH AND DEVELOPMENT, AND R&D PLANT, BY AGENCY: 1960 TO 1966

[In millions of dollars. For years ending June 30. Includes both intramural and extramural performance. Includes social science research. Obligations differ from expenditures in any given year because not all funds are expended during the year obligated. Moreover, the expenditure data in this table differ from the Federal expenditure data in table 774 because of the difference between Federal fiscal year reports and predominantly calendar year reporting by other sectors. See also *Historical Statistics, Colonial Times to 1967*, series W 79-106]

AGENCY	RESEARCH AND DEVELOPMENT					R&D PLANT				
	1960	1963	1964	1965 est.	1966 est.	1960	1963	1964	1965 est.	1966 est.
Total obligations.....	7,545	12,464	14,133	14,829	15,280	528	1,186	1,178	1,659	865
Departments:										
Agriculture.....	126	168	189	227	233	3	7	2	30	17
Commerce.....	31	52	54	69	76	2	29	45	21	12
Defense.....	5,712	7,286	7,262	7,001	7,091	114	87	91	77	110
Army.....	1,117	1,297	1,377	1,471	1,490	66	14	12	32	31
Navy.....	1,536	1,597	1,621	1,495	1,580	22	12	19	20	19
Air Force.....	2,816	3,945	3,784	3,413	3,365	18	44	39	20	57
Other ¹	243	447	480	622	655	8	17	21	4	3
Health, Education, and Welfare.....	320	656	777	879	979	39	60	71	147	101
Interior.....	64	92	106	123	137	3	14	8	21	15
Atomic Energy Commission ²	762	1,078	1,236	1,271	1,292	227	321	243	421	228
National Aero. and Space Admin.....	369	2,836	4,200	4,882	5,021	118	598	643	852	299
National Science Foundation.....	68	145	165	199	271	13	61	60	68	74
All other.....	93	161	147	178	180	9	9	16	23	10
Total expenditures.....	7,277	11,232	13,650	14,038	14,300	461	696	1,044	1,333	1,138
Departments:										
Agriculture.....	121	164	178	215	235	11	8	5	16	23
Commerce.....	30	48	53	65	67	3	22	31	33	26
Defense.....	5,553	6,794	7,433	7,113	6,786	101	55	84	110	95
Army.....	1,066	1,406	1,395	1,472	1,435	43	15	19	11	17
Navy.....	1,277	1,565	1,715	1,566	1,517	24	9	9	24	23
Air Force.....	2,958	3,509	3,918	3,554	3,334	20	30	33	62	51
Other ¹	252	314	405	521	500	14	1	23	13	5
Health, Education, and Welfare.....	292	590	747	735	860	32	42	47	78	104
Interior.....	63	96	92	113	121	2	7	10	13	18
Atomic Energy Commission ²	762	1,078	1,236	1,271	1,292	224	258	269	301	268
National Aero. and Space Admin.....	330	2,292	3,637	4,184	4,567	71	248	534	716	633
National Science Foundation.....	51	100	141	152	198	7	42	49	49	61
All other.....	76	131	132	190	174	10	13	16	18	11

¹ Includes defense agencies such as the Advanced Research Projects Agency, Defense Atomic Support Agency, and the Defense Communication Agency; also includes Departmentwide funds which are composed of military assistance, civil defense, and emergency funds only.

² Data represent "accrued costs" rather than obligations and expenditures, respectively.

Source: National Science Foundation; annual report, *Federal Funds for Research, Development, and Other Scientific Activities*.

No. 777. INDUSTRIAL RESEARCH AND DEVELOPMENT, BY GEOGRAPHIC DIVISION AND SOURCE OF FUNDS: 1964

[Money figures in millions of dollars. See headnote, table 775. For composition of geographic divisions, see fig. 1, p. XII]

GEOGRAPHIC DIVISION	TOTAL FUNDS		FEDERAL FUNDS		COMPANY FUNDS	
	Amount	Percent of U.S.	Amount	Percent of U.S.	Amount	Percent of U.S.
United States.....	13,353	100	7,600	100	5,753	100
New England.....	1,084	8	595	8	489	8
Middle Atlantic.....	3,036	23	1,231	16	1,805	31
East North Central.....	2,296	17	380	5	1,916	33
West North Central.....	564	4	344	5	220	4
South Atlantic.....	924	7	655	9	268	5
East South Central.....	311	2	227	3	84	1
West South Central.....	854	6	619	8	235	4
Mountain.....	462	3	379	5	84	1
Pacific.....	3,822	29	3,172	42	650	11

Source: National Science Foundation; annual report, *Basic Research, Applied Research, and Development in Industry*.

No. 778. FUNDS FOR PERFORMANCE OF INDUSTRIAL RESEARCH AND DEVELOPMENT, BY INDUSTRY AND SOURCE OF FUNDS: 1961 TO 1964

[In millions of dollars. See headnote, table 775]

INDUSTRY	TOTAL FUNDS ¹				FEDERAL FUNDS				PRIVATE INDUSTRY FUNDS			
	1961	1962	1963	1964	1961	1962	1963	1964	1961	1962	1963	1964
Total	10,908	11,464	12,630	13,353	6,240	6,434	7,270	7,600	4,668	5,029	5,360	5,753
Food and kindred products.....	122	117	125	135	5	2	(NA)	(NA)	117	114	(NA)	(NA)
Textiles and apparel.....	30	28	30	32	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	28	30
Lumber, wood products, and furniture.....	10	10	11	11	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Paper and allied products.....	59	65	69	73	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	69	73
Chemicals and allied products.....	1,109	1,190	1,263	1,284	232	256	266	230	877	933	997	1,054
Petroleum refining and extraction ²	295	305	311	337	19	20	21	27	276	284	290	310
Rubber, plastics, and glass products.....	136	135	150	150	39	31	40	26	97	104	110	124
Primary metals.....	99	113	123	133	(NA)	7	8	10	88	106	116	124
Fabricated metal products.....	175	169	180	191	18	11	10	8	157	157	170	182
Machinery.....	135	145	154	152	38	26	27	18	97	119	127	133
Electrical equipment and communication ³	864	911	948	1,028	281	275	255	258	583	636	693	770
Motor vehicles and other transportation equipment.....	2,297	2,346	2,496	2,635	1,465	1,468	1,567	1,628	832	877	929	1,007
Aircraft and missiles.....	944	1,011	1,106	1,189	226	282	292	324	718	720	814	865
Professional and scientific instruments.....	3,904	4,147	4,826	5,097	3,490	3,675	4,350	4,807	414	472	476	489
Other industries ⁴	382	439	473	483	175	198	219	203	207	241	254	276
	346	334	357	424	252	183	207	254	205	192	287	316

¹ Represents zero. N/A. Not available.

² Includes basic research, applied research, and development.

³ Excludes geological and geophysical exploration activities of petroleum companies.

⁴ These 2 industries have been combined because of the similarity of their research and development activities.

⁴ Includes data for all other manufacturing and nonmanufacturing industries not specifically listed and industry data specified as not available.

Source: National Science Foundation; annual report, *Basic Research, Applied Research, and Development in Industry*.

NO. 779. FEDERAL PRIME CONTRACTS AND GRANTS AWARDED FOR RESEARCH AND DEVELOPMENT—STATES: 1963

[Money figures in thousands of dollars. For year ending June 30. Covers awards made by Departments of Defense; Health, Education, and Welfare; Agriculture; Interior; and Commerce; and by National Aeronautics and Space Administration, National Science Foundation, and Atomic Energy Commission. These agencies are responsible for approximately 99.2 percent of all research and development work performed outside the agencies under prime contracts and grants awarded by the Federal Government. Excludes unallocated funds]

STATE	Rank	Amount	STATE	Rank	Amount
United States	(X)	9,864,142	Montana.....	44	4,799
Alabama.....	17	137,314	Nebraska.....	47	3,665
Alaska.....	41	5,554	Nevada.....	20	124,474
Arizona.....	16	139,460	New Hampshire.....	35	14,199
Arkansas.....	32	17,133	New Jersey.....	8	287,758
California.....	1	3,807,821	New Mexico.....	11	226,207
Colorado.....	12	221,581	New York.....	2	917,419
Connecticut.....	21	122,985	North Carolina.....	29	21,972
Delaware.....	28	24,490	North Dakota.....	50	2,284
Florida.....	9	247,808	Ohio.....	14	185,735
Georgia.....	33	15,341	Oklahoma.....	36	13,058
Hawaii.....	45	4,126	Oregon.....	37	12,630
Idaho.....	27	27,621	Pennsylvania.....	5	348,986
Illinois.....	13	191,143	Rhode Island.....	39	9,711
Indiana.....	26	49,681	South Carolina.....	34	14,689
Iowa.....	31	18,537	South Dakota.....	38	12,216
Kansas.....	30	20,330	Tennessee.....	18	133,623
Kentucky.....	40	5,647	Texas.....	6	330,870
Louisiana.....	15	181,964	Utah.....	22	120,019
Maine.....	48	2,967	Vermont.....	43	4,904
Maryland ¹	4	445,055	Virginia.....	24	73,104
Massachusetts.....	3	451,918	Washington.....	7	321,273
Michigan.....	19	133,513	West Virginia.....	42	5,434
Minnesota.....	25	63,553	Wisconsin.....	23	95,024
Mississippi.....	46	4,008	Wyoming.....	49	2,842
Missouri.....	10	232,842			

X Not applicable.

¹ Includes District of Columbia.

Source: U.S. Congress, House, Committee on Science and Astronautics. *Government and Science, No. 4: Geographic Distribution of Federal Research and Development Funds*. Report of the Subcommittee on Science, Research and Development, 88th Congress, 2d session. 1964. Data from the National Science Foundation.

NO. 780. RESEARCH AND DEVELOPMENT, SCIENTISTS AND ENGINEERS—NUMBER AND AVERAGE COST, BY SELECTED INDUSTRY, AND SOURCE OF FUNDS: 1964

[Covers 200 companies which, in 1964, accounted for \$7 billion or 92 percent of all Federal funds for industry R&D performance and employed 86 percent of all R&D scientists and engineers on Federal projects in industry. See headnote, table 775]

INDUSTRY	Total	Company	SOURCES OF FEDERAL SUPPORT			
			Total	Department of Defense	National Aeronautics and Space Admin.	All other agencies
Number employed ¹	220,700	78,900	141,800	84,100	42,700	15,000
Aircraft and missiles.....	98,500	15,000	83,500	48,600	31,300	3,600
Electrical equipment and communication.....	53,500	21,400	32,100	20,000	5,300	6,800
Chemicals and allied products.....	16,700	12,100	4,600	2,400	(Z)	2,100
Machinery.....	19,100	12,600	6,500	4,000	2,200	300
Motor vehicles and other transportation equipment.....	10,600	6,300	4,300	2,400	1,800	100
Professional and scientific instruments.....	9,100	3,800	5,300	3,500	1,400	400
Other industries.....	13,200	7,800	5,500	3,200	700	1,700
Average cost (per scientist or engineer) ²	\$44,700	\$36,000	\$49,500	\$45,400	\$58,000	\$48,600
Aircraft and missiles.....	50,500	30,600	54,000	48,000	65,000	39,900
Electrical equipment and communication.....	40,100	33,500	44,500	42,700	38,100	55,000
Chemicals and allied products.....	42,200	40,900	45,700	45,000	38,700	46,600
Machinery.....	37,600	37,400	38,000	37,200	41,600	23,300
Motor vehicles and other transportation equipment.....	52,900	55,000	49,800	53,700	44,400	55,100
Professional and scientific instruments.....	28,000	24,900	30,300	31,600	27,800	27,400
Other industries.....	38,600	33,200	45,400	42,100	42,400	53,100

Z Less than 50.

¹ Represents arithmetic mean of full-time equivalent of R&D scientists and engineers employed in January 1964 and January 1965.

² Obtained by dividing total R&D performance funds by number of R&D scientists and engineers.

Source: National Science Foundation; annual report, *Basic Research, Applied Research, and Development in Industry*.

No. 781. SCIENCE AND ENGINEERING AT UNIVERSITIES AND COLLEGES—EXPENDITURES, 1963-64 AND PROFESSIONAL PERSONNEL, 1965

[Expenditures in millions of dollars; personnel in thousands. Includes Puerto Rico and outlying areas. Preliminary estimates based on a survey conducted by the National Science Foundation covering all institutions of higher education with programs in the sciences and engineering. Excluded from coverage were approximately 250 schools of music, arts, law, theology, and business, and other specialized institutions]

ITEM	All institutions	UNIVERSITIES AND COLLEGES						Federal contract research centers
		Total	Groups based on highest degree granted ¹			Medical schools	Agricultural experiment stations ²	
			Graduate degree		2 and 4 year colleges			
			Science and engineering	Other				
EXPENDITURES, 1963-64								
Current expenditures for separately budgeted research and development: ³								
All sources.....	2,022	1,272	700	6	7	351	209	750
Federal.....	1,666	917	552	5	5	284	71	749
Capital expenditures for research and development and instruction:								
All sources.....	687	557	345	21	58	104	29	129
Federal.....	263	137	73	2	7	48	7	126
Current expenditures for instruction and departmental research ⁴	1,554	1,553	959	70	267	253	63	1
PERSONNEL, January 1965								
Total.....	261.0	250.0	136.7	8.9	30.9	51.1	22.4	11.0
Full time.....	158.9	148.8	71.5	7.0	23.7	30.9	15.8	10.1
Part time.....	41.0	40.8	14.7	1.7	7.2	16.0	1.2	0.2
Employed graduate students.....	61.1	60.4	50.7	0.2	-	4.2	5.4	0.7
Full-time equivalent total.....	203.2	192.6	101.3	7.8	26.3	38.2	19.0	10.6

- Represents zero. ¹ Excludes medical schools and agricultural experiment stations.

² Includes related colleges of agriculture. ³ Excludes unreimbursed indirect or overhead costs.

⁴ Excludes indirect or overhead costs.

Source: National Science Foundation. Data derived from *Survey of Scientific Activities of Institutions of Higher Education, 1963-64*.

No. 782. PROFESSIONAL SCIENTIFIC AND TECHNICAL PERSONNEL IN THE FEDERAL GOVERNMENT, BY OCCUPATIONAL GROUP: 1958 TO 1964

[As of October, except as noted]

OCCUPATIONAL GROUP	1958	1959	1960	1961	1962	1964 ¹
Total.....	147,143	149,827	155,973	163,427	174,408	189,491
Scientific personnel.....	50,910	51,649	53,264	60,077	61,982	68,122
Physical sciences.....	15,750	16,519	17,984	² 23,573	² 23,043	26,218
Mathematics and statistics ³	4,627	4,471	4,664	4,671	5,163	5,012
Biological sciences.....	21,198	21,446	21,636	22,602	23,666	24,883
Social sciences ⁴	4,469	4,580	4,672	4,919	5,479	5,680
Geography and cartography.....	2,973	2,688	2,300	2,278	2,389	2,949
Psychology.....	1,697	1,672	1,689	1,788	1,815	1,843
Operations research.....	196	264	319	346	427	637
Engineering personnel.....	57,122	57,808	60,978	² 59,974	² 67,500	74,869
Health professional personnel.....	39,111	40,870	41,791	43,376	44,926	46,500
Health officers.....	13,056	13,402	13,728	14,282	14,640	15,210
Other.....	26,055	26,968	28,063	29,094	30,286	31,290

¹ As of December.

² Because of overlapping in job series classifications, several thousand personnel were transferred from engineering to the physical sciences series in 1961; many of them were transferred back to engineering in 1962.

³ Includes actuary, mathematics, statistics, and, beginning 1961, mathematical statisticians.

⁴ Includes social science, economics, history, and the anthropological sciences.

Source: National Science Foundation: 1958 to 1962, *Scientific and Technical Personnel in the Federal Government: 1964*, compiled from data supplied by Civil Service Commission.

No. 783. SCIENTISTS AND ENGINEERS IN PRIVATE INDUSTRY: 1963

[As of January. Not comparable with survey data published by Dept. of Labor, Bureau of Labor Statistics, for 1962 and prior years. Estimated to nearest hundred.]

INDUSTRY	Total	Engi- neers	Chem- ists	Phys- icists	Metal- lurgists	Earth scien- tists	Math- emati- cians	Life scien- tists	Other scien- tists ¹
All scientists and engineers.....	871,400	711,600	74,300	14,500	11,900	12,300	20,400	18,400	8,000
Ordnance and accessories.....	52,900	46,200	1,100	2,200	500	(Z)	2,100	300	400
Chemicals and allied prod.....	85,100	34,600	35,300	1,200	500	300	900	9,800	2,600
Petr. prod. and extraction.....	35,800	22,500	3,800	200	(Z)	8,800	200	300	(Z)
Primary and fabr. metal prod	57,600	45,000	3,400	400	5,600	200	800	300	1,700
Machinery.....	75,400	69,600	1,400	900	1,000	100	2,200	(Z)	200
Communication equipment.....	76,700	71,800	600	1,700	100	(Z)	2,200	(Z)	400
Other electrical equipment.....	69,500	64,200	2,100	1,700	600	(Z)	600	(Z)	300
Aircraft and parts.....	83,000	76,100	1,400	1,100	1,200	200	2,600	100	400
Other transp. equip., and mfg.	85,200	63,700	14,500	500	900	(Z)	900	3,900	500
Instruments and related prod.	32,500	27,800	2,200	1,100	100	600	300	200	100
Mining, transp., and pub. util- ities and other nonmfg.....	116,200	105,500	2,800	500	600	1,100	4,000	1,400	300
Services.....	101,700	84,500	5,700	3,000	800	900	3,800	2,000	900
R&D scientists and engineers.....	344,900	260,900	43,800	12,500	4,800	1,600	10,900	7,200	3,200
Ordnance and accessories.....	31,000	26,100	800	2,000	300	(Z)	1,500	200	200
Chemicals and allied prod.....	40,500	11,400	21,900	900	300	100	400	5,000	600
Petr. prod. and extraction.....	6,100	3,100	1,800	100	(Z)	800	100	200	(Z)
Primary and fabr. metal prod	12,500	8,500	1,300	400	1,300	(Z)	100	200	600
Machinery.....	29,000	25,900	1,000	700	400	(Z)	900	100	200
Communication equipment.....	56,600	52,300	500	1,600	100	(Z)	1,800	(Z)	200
Other electrical equipment.....	30,700	26,900	1,500	1,500	400	(Z)	300	(Z)	100
Aircraft and parts.....	53,800	48,600	1,000	1,000	800	(Z)	1,800	100	400
Other transp. equip., and mfg.	26,700	16,400	7,800	500	300	(Z)	300	800	400
Instruments and related prod.	14,000	11,200	1,500	900	100	(Z)	200	(Z)	100
Mining, transp., and pub. util- ities and other nonmfg.....	6,100	4,500	700	(Z)	100	100	400	100	100
Services.....	38,000	26,100	4,000	2,900	700	500	3,000	400	500

Z Less than 50. ¹ Excludes psychologists and social scientists.

Source: Dept. of Labor, Bureau of Labor Statistics; unpublished data.

No. 784. SCIENTISTS, ENGINEERS, SELECTED HEALTH-RELATED PROFESSIONALS, AND TECHNICIANS EMPLOYED BY STATE GOVERNMENT AGENCIES, BY STATES: 1964

[Not comparable with survey data published by Dept. of Labor, Bureau of Labor Statistics, for 1962. Social scientists, statisticians, and practicing psychologists, reported as scientists in 1964, were not all in 1962. Non-practicing physicians, dentists, psychiatrists, public health specialists, and veterinarians who were counted as scientists in 1962 are reported with selected health-related professionals in 1964.]

STATE	Scien- tists	Engi- neers	Health- related profes- sionals	Techni- cians	STATE	Scien- tists	Engi- neers	Health- related profes- sionals	Techni- cians
U.S.....	16,686	34,537	36,153	60,232	Missouri.....	267	859	305	1,309
Alabama.....	195	736	460	2,150	Montana.....	115	379	125	691
Alaska.....	178	346	72	342	Nebraska.....	115	229	183	533
Arizona.....	168	132	91	784	Nevada.....	99	236	65	223
Arkansas.....	145	194	327	655	New Hampshire.....	72	343	160	75
California.....	1,651	6,297	2,853	6,250	New Jersey.....	274	1,077	1,164	718
Colorado.....	185	490	256	769	New Mexico.....	156	188	138	568
Connecticut.....	261	620	604	892	New York.....	1,393	2,655	4,988	2,623
Delaware.....	56	77	159	395	North Carolina.....	370	776	545	686
Florida.....	649	777	1,953	2,601	North Dakota.....	88	182	72	270
Georgia.....	301	654	280	1,381	Ohio.....	488	666	978	2,016
Hawaii.....	185	259	333	306	Oklahoma.....	281	120	447	630
Idaho.....	157	113	307	598	Oregon.....	533	782	569	659
Illinois.....	822	1,556	1,403	1,787	Pennsylvania.....	805	1,183	3,616	2,188
Indiana.....	348	624	441	632	Rhode Island.....	97	162	373	299
Iowa.....	191	321	340	1,936	South Carolina.....	191	278	640	902
Kansas.....	253	427	431	1,137	South Dakota.....	93	150	102	107
Kentucky.....	273	702	398	1,595	Tennessee.....	301	394	793	1,777
Louisiana.....	147	493	851	2,217	Texas.....	454	1,852	991	3,893
Maine.....	182	301	211	391	Utah.....	275	353	81	698
Maryland.....	279	448	1,206	1,014	Vermont.....	79	354	117	369
Massachusetts.....	453	1,303	2,191	1,246	Virginia.....	608	828	1,203	2,397
Michigan.....	728	942	821	1,572	Washington.....	445	1,166	404	853
Minnesota.....	320	543	688	1,683	West Virginia.....	180	228	177	526
Mississippi.....	249	251	534	1,217	Wisconsin.....	416	745	484	935
					Wyoming.....	80	258	103	467

Source: Dept. of Labor, Bureau of Labor Statistics; unpublished data, from *Scientific and Technical Personnel in State Government Agencies, 1964*.

No. 785. SCIENTISTS, BY FIELD OF EMPLOYMENT—STATES AND OTHER AREAS: 1964

[The National Register of Scientific and Technical Personnel does not include all scientists in the United States because reporting is voluntary. See text, p. 542]

STATE OR OTHER AREA	Total	Agricultural sciences	Biological sciences	Psychology	Earth sciences and meteorology	Mathematics and statistics	Physics	Chemistry	Economics	Other
Total	223,854	9,526	27,135	16,804	23,417	20,254	26,698	63,053	12,143	24,824
Alabama.....	1,887	174	222	84	118	207	222	536	75	249
Alaska.....	452	99	61	6	199	20	14	25	8	20
Arizona.....	1,768	186	228	135	290	196	197	255	100	181
Arkansas.....	770	145	140	50	88	43	33	108	44	59
California.....	26,645	825	2,827	2,321	2,666	3,464	4,636	5,620	1,171	3,215
Colorado.....	3,656	272	359	241	1,144	256	425	538	97	324
Connecticut.....	4,149	60	429	336	199	379	610	1,424	207	505
Delaware.....	2,387	19	94	53	27	61	113	1,550	149	321
District of Columbia.....	7,175	184	669	495	989	812	1,043	977	1,206	800
Florida.....	3,708	294	640	381	426	337	374	729	154	373
Georgia.....	2,238	268	475	195	177	188	154	485	130	166
Hawaii.....	742	66	161	52	127	56	30	105	45	100
Idaho.....	814	226	115	42	83	35	70	131	33	79
Illinois.....	11,537	229	1,490	976	734	938	1,253	3,888	816	1,213
Indiana.....	4,628	153	685	353	218	419	467	1,567	272	494
Iowa.....	2,351	155	456	250	102	207	263	551	166	201
Kansas.....	2,088	107	328	208	406	172	136	447	105	179
Kentucky.....	1,545	95	251	114	150	85	96	513	68	173
Louisiana.....	3,172	169	369	97	1,047	160	150	772	110	298
Maine.....	589	68	96	47	59	53	39	139	34	54
Maryland.....	7,005	207	1,512	374	486	862	1,006	1,651	192	715
Massachusetts.....	9,540	84	1,068	721	642	993	1,978	2,577	470	1,007
Michigan.....	7,573	304	952	712	397	592	724	2,435	485	972
Minnesota.....	3,811	259	601	370	200	380	359	1,081	201	360
Mississippi.....	978	162	169	61	271	41	33	140	35	66
Missouri.....	3,722	159	490	248	340	275	304	1,189	280	437
Montana.....	797	209	131	20	214	49	19	64	35	56
Nebraska.....	1,118	119	201	97	184	125	77	156	80	79
Nevada.....	430	43	37	22	112	22	46	80	21	47
New Hampshire.....	650	65	121	30	70	49	71	135	40	69
New Jersey.....	11,844	100	796	684	243	911	1,486	5,819	427	1,378
New Mexico.....	2,023	159	119	64	424	230	530	319	36	142
New York.....	24,510	310	2,965	2,713	1,023	2,543	3,267	7,015	1,793	2,881
North Carolina.....	3,118	231	635	212	200	276	244	920	146	254
North Dakota.....	460	87	63	37	82	29	20	90	27	25
Ohio.....	10,135	176	937	729	516	747	1,150	4,124	510	1,246
Oklahoma.....	3,112	102	252	120	1,103	195	154	726	104	355
Oregon.....	2,253	576	380	179	218	131	131	342	101	195
Pennsylvania.....	12,813	256	1,428	992	597	938	1,572	4,898	641	1,491
Rhode Island.....	895	25	92	64	64	70	164	247	49	120
South Carolina.....	1,203	140	131	46	74	79	109	428	48	148
South Dakota.....	463	93	89	37	57	39	27	60	28	33
Tennessee.....	3,108	162	439	168	157	207	429	1,155	100	291
Texas.....	10,660	313	866	466	3,495	687	793	2,509	343	1,188
Utah.....	1,570	166	231	105	304	134	113	293	48	176
Vermont.....	343	35	78	28	18	34	21	71	25	33
Virginia.....	3,741	199	413	241	316	481	483	1,010	169	429
Washington.....	3,717	408	554	275	346	339	427	794	164	410
West Virginia.....	1,513	76	135	45	82	61	65	776	64	209
Wisconsin.....	3,912	257	601	295	224	378	384	1,133	222	418
Wyoming.....	717	111	67	32	335	23	13	84	14	38
Puerto Rico.....	355	11	68	19	46	18	26	86	22	59
Foreign.....	3,464	128	419	162	1,328	228	248	226	233	492

Source: National Science Foundation; *Reviews of Data on Science Resources*, Vol. 1, No. 2, December 1964. Data derived from the National Register of Scientific and Technical Personnel.

No. 786. SELECTED CHARACTERISTICS OF SCIENTISTS: 1964

[See headnote, table 785. For definition of median, see headnote, table 5]

CHARACTERISTIC	Number	Per- cent	Median salary	CHARACTERISTIC	Number	Per- cent	Median salary
Total	223,854	100	\$11,000	Highest degree:			
Sex:				Ph. D.....	79,372	35	\$12,000
Men.....	206,750	92	11,000	Professional medical.....	5,925	3	15,500
Women.....	17,104	8	8,400	Master's.....	61,222	27	10,000
Field of science:				Bachelor's.....	72,364	32	10,000
Chemistry.....	63,053	28	11,000	Less than a bachelor's.....	2,878	1	10,300
Earth sciences.....	17,907	8	10,300	Not reported.....	2,093	1	10,800
Meteorology.....	5,510	2	10,600	Age: ¹			
Physics.....	26,698	12	12,000	20 to 29 years.....	42,349	19	(NA)
Mathematics.....	17,411	8	11,000	30 to 39 years.....	80,044	36	(NA)
Agricultural sciences.....	9,526	4	9,200	40 to 49 years.....	60,557	27	(NA)
Biological sciences.....	27,135	12	10,700	50 to 59 years.....	28,229	13	(NA)
Psychology.....	16,804	8	10,300	60 years and over.....	12,386	6	(NA)
Statistics.....	2,843	1	12,000	Not reported.....	289	-	(X)
Economics.....	12,143	5	12,000	Years of experience:			
Sociology.....	2,703	1	10,100	1 year or less.....	8,303	4	7,400
Linguistics.....	1,351	1	9,000	2 to 4 years.....	34,864	16	8,000
Other.....	20,770	9	11,100	5 to 9 years.....	45,249	20	9,600
				10 to 14 years.....	42,706	19	11,500
				15 to 19 years.....	26,304	12	12,500
				20 years or more.....	53,778	24	14,000
				Not reported.....	12,650	6	10,900

- Represents zero. NA Not available. X Not applicable. ¹ Median age, 38.Source: National Science Foundation; *Summary of American Science Manpower, 1964* (NSF 66-11). Data derived from the National Register of Scientific and Technical Personnel.

No. 787. SCIENTISTS—NUMBER AND MEDIAN ANNUAL SALARIES, BY TYPE OF EMPLOYER AND WORK ACTIVITY: 1964

[See headnote, table 785. For definition of median, see headnote, table 5]

TYPE OF EMPLOYER	Total	WORK ACTIVITY							
		Research and development			Management or administration		Teaching	Production and inspection	Other
		Total 1	Basic research	Applied research	Total 2	R&D			
NUMBER									
All employers.....	3 223,854	77,699	35,781	30,280	46,255	24,568	41,209	16,582	26,301
Educational institutions.....	77,727	26,392	19,894	6,047	5,778	2,793	39,926	249	3,325
Federal Government.....	23,405	10,242	5,002	4,535	7,442	3,846	203	1,274	3,654
Other government.....	7,472	2,006	779	1,148	2,528	908	302	601	1,798
Military.....	5,522	999	531	405	1,854	631	242	180	1,909
Nonprofit organizations.....	8,722	4,344	2,334	1,789	2,086	1,257	154	245	1,689
Industry and business.....	84,421	32,741	6,863	15,924	25,563	14,722	170	13,693	10,602
Self-employed.....	4,277	343	80	194	569	203	34	214	2,865
Other.....	1,434	478	210	231	347	171	98	98	358
No report of employer.....	1,257	154	88	57	88	37	80	28	101
MEDIAN SALARY									
All employers.....	\$11,000	\$11,000	\$11,000	\$11,000	\$14,500	\$15,500	\$8,900	\$9,800	\$10,500
Educational institutions.....	9,600	10,200	10,000	10,400	14,000	14,500	8,800	8,700	9,600
Federal Government.....	11,000	10,600	10,700	10,600	13,000	14,500	10,000	9,500	10,300
Other government.....	9,000	8,700	9,000	8,500	10,000	10,600	8,500	7,700	8,900
Nonprofit organizations.....	12,000	11,500	11,000	12,000	15,600	17,000	12,000	10,000	10,000
Industry and business.....	12,000	11,400	12,300	11,500	15,500	16,000	10,500	10,000	11,000
Self-employed.....	15,000	15,000	14,700	15,000	15,000	19,000	(B)	12,000	16,000
Other.....	11,000	10,400	10,000	10,800	13,500	14,500	8,000	9,900	11,000
No report of employer.....	11,000	10,700	11,700	10,300	14,100	15,000	9,000	(B)	10,000

B Not computed; base less than 25 registrants reporting salary.

¹ Includes development or design, not separately identified.² Includes management or administration of activities other than research or development that were not separately identified.³ Includes 9,617 not employed and 6,191 not reporting work activity.Source: National Science Foundation; *Summary of American Science Manpower, 1964* (NSF 66-11). Data derived from the National Register of Scientific and Technical Personnel.

No. 788. ENROLLMENT FOR ADVANCED DEGREES—SELECTED FIELDS: 1960 TO 1964

[As of full term]

FIELD	1960	1961	1962	1963	1964
All fields	314,349	338,981	373,845	413,366	477,535
Science fields	120,638	128,794	142,433	158,051	177,544
Agriculture.....	3,852	3,744	4,282	4,463	4,772
Biological sciences.....	14,775	16,190	17,768	20,639	23,660
Forestry.....	560	602	713	702	850
Geography.....	1,041	1,112	1,281	1,414	1,743
Mathematical subjects.....	11,770	12,671	14,121	15,974	18,226
Physical sciences.....	25,707	26,553	28,591	30,959	34,061
Engineering.....	36,636	39,367	43,850	48,917	54,318
Psychology.....	10,677	10,751	11,344	12,627	13,733
Social sciences ¹	15,092	16,594	19,293	21,272	24,676
Sciences, general program.....	528	610	1,190	1,084	1,505
Health fields	5,842	6,199	6,586	7,322	8,234
All other fields	187,869	203,388	224,826	247,993	291,757

¹ Includes anthropology, economics, agricultural economics, sociology, linguistics, and political science.Source: National Science Foundation. Data from Office of Education; *Enrollment for Advanced Degrees*.

No. 789. SCIENCE DOCTORATES CONFERRED, BY FIELD OF SCIENCE: 1959 TO 1965

FIELD OF SCIENCE	1959	1960	1961	1962	1963	1964	1965 (prel.)
Total	6,536	6,908	7,439	8,266	9,308	10,266	11,475
Life sciences	1,627	1,776	1,802	2,051	2,154	2,467	2,748
Agricultural and related.....	296	346	353	413	400	456	475
Medical sciences.....	95	84	99	109	112	144	169
Physiology and related fields.....	307	235	272	341	388	530	533
Botany and phytopathology.....	164	196	188	202	195	221	220
Biochemistry.....	208	272	285	289	309	389	390
Microbiology.....	168	179	181	198	231	188	301
Zoology and entomology.....	220	276	261	300	286	307	382
Miscellaneous biological sciences.....	169	188	163	199	233	232	279
Physical sciences	2,846	3,044	3,367	3,890	4,506	4,993	5,704
Mathematics.....	301	290	362	410	538	616	728
Physics.....	523	574	602	765	828	922	1,021
Chemistry.....	1,077	1,105	1,139	1,182	1,358	1,349	1,444
Geo-sciences.....	235	250	258	252	328	319	383
Engineering.....	710	825	1,006	1,281	1,454	1,787	2,128
Social sciences	2,063	2,088	2,270	2,325	2,648	2,806	3,023
Psychology.....	809	762	870	873	973	959	1,056
Sociology.....	183	160	183	195	219	207	230
Economics.....	338	375	434	407	497	531	560
History.....	351	365	362	389	432	545	614
Political science, public admin. and int'l relations.....	230	251	264	266	317	338	399
Anthropology and archaeology.....	67	75	59	84	102	96	96
Miscellaneous social sciences.....	85	104	98	111	108	130	78

Source: National Science Foundation. Data from National Research Council; *Doctorate Production in United States Universities, 1960-1962*, and unpublished data.

No. 790. ENROLLMENT IN SCIENCE AND MATHEMATICS—PUBLIC HIGH SCHOOLS: 1957 TO 1963

[In thousands. Data are for school year ending in year stated. Prior to 1963, excludes Alaska and Hawaii. Based on sample]

COURSE	1957	1959	1961	1963
Science	4,044	4,670	4,905	6,020
General science.....	1,518	1,581	1,549	1,827
Biology.....	1,430	1,677	1,686	2,487
Chemistry.....	520	657	708	859
Physics.....	310	379	385	397
Other science.....	266	376	577	450
Mathematics	4,401	5,108	5,174	6,731
General mathematics.....	976	1,024	1,377	1,213
Elementary algebra.....	1,518	1,775	1,607	2,131
Plane geometry.....	788	979	960	1,454
Intermediate algebra.....	484	643	742	1,017
Trigonometry.....	200	220	246	204
Solid geometry.....	160	106	173	73
Other mathematics.....	275	361	69	639

Source: National Science Foundation. Data from Office of Education: for 1962-63, *Offerings and Enrollments in Science and Mathematics in Public High Schools, 1962*; for 1960-61, *Summary of Offerings and Enrollments in High School Subjects, 1960-61 (Preliminary Report)*; for 1956-57 and 1958-59, *Offerings and Enrollments in Science and Mathematics in Public High Schools, 1958*.

No. 791. PATENTS AND TRADEMARKS: 1941 TO 1965

Covers patents issued to citizens of United States and residents of foreign countries. For information on copyrights, see table 752. See also *Historical Statistics, Colonial Times to 1967*, series W 66-75 and W 77-78]

ITEM	1941-45	1946-50	1951-55	1956-60	1961-65	1960	1963	1964	1965
Patent applications filed	294,273	400,342	379,053	410,389	463,193	84,475	91,091	93,170	100,421
Inventions.....	265,417	380,095	351,049	384,782	436,082	79,590	85,724	87,597	94,632
Designs.....	27,536	39,127	25,951	23,865	25,251	4,525	4,968	5,259	5,413
Botanical plants.....	262	398	467	584	628	131	145	120	105
Reissues.....	1,058	722	986	1,158	1,232	229	254	194	271
Patents issued¹	184,492	163,034	208,964	251,872	275,443	49,986	48,970	50,390	66,647
Inventions ²	164,360	144,076	192,651	237,469	259,971	47,170	45,679	47,376	62,857
Individuals.....	61,127	58,957	78,459	76,589	69,945	13,069	12,525	12,504	16,063
Corporations:									
United States.....	95,107	78,376	100,278	133,948	152,537	28,187	26,632	27,836	37,158
Foreign.....	5,147	4,669	10,537	21,043	³ 30,992	4,670	5,501	³ 5,854	³ 8,096
U.S. Government ⁴	346	1,761	3,359	5,889	6,497	1,244	1,021	1,182	1,540
Designs.....	18,880	18,016	15,084	13,024	13,862	2,543	2,965	2,686	3,424
Botanical plants.....	229	334	441	567	576	116	129	128	120
Reissues.....	1,023	608	788	812	1,034	157	197	200	246
Certificates of trade-									
marks issued¹	52,191	85,611	100,942	108,246	106,635	22,367	22,395	22,789	21,666
Trademarks.....	34,435	61,339	83,311	90,727	91,946	18,434	19,740	20,087	18,501
Trademark renewals.....	17,756	24,272	17,631	17,519	14,689	3,933	2,655	2,702	3,165

¹ Excludes all registration numbers left blank due to withdrawal of patent or trademark before issue.

² Since 1942, includes patents issued to Alien Property Custodian, not shown separately.

³ Includes foreign government patents: 147 in 1964 and 210 in 1965.

⁴ Excludes patents issued to Alien Property Custodian.

Source: Dept. of Commerce, Patent Office; unpublished data. Fiscal-year figures are published in the *Annual Report of the Commissioner of Patents*.

No. 792. ATOMIC ENERGY COMMISSION—LICENSES AND AGREEMENTS: 1955 TO 1965

ITEM	1955	1960	1961	1962	1963	1964	1965
Licenses in effect:							
Power reactors:							
Construction permits and authorizations.....	—	11	11	5	4	5	7
Licenses to operate and operating authorizations.....	—	3	4	11	13	15	15
Research and test reactors:							
Construction permits.....	4	18	15	10	11	5	18
Licenses to operate.....	2	47	57	64	68	73	69
Critical experiment facilities:							
Construction permits.....	2	1	2	1	2	—	—
Production facilities construction permits.....	—	—	—	—	1	1	1
Licenses to operate.....	—	14	14	15	15	16	15
Operator licenses (includes senior) ²	3	563	689	837	1,295	1,554	1,460
Licenses to possess special nuclear materials ³	7	362	459	454	511	571	583
Licenses to possess source materials ³	1,763	1,153	569	460	499	467	440
Licenses to possess byproduct materials ³	(X)	8,429	9,090	7,910	7,895	8,073	8,454
Reactor export licenses issued.....	—	3	4	4	1	7	4
Source material export licenses issued.....	715	696	228	126	127	131	106
Organizations with byproduct (radioisotope) licenses⁴	3,016	5,940	6,595	5,881	5,889	5,871	6,153
Medical institutions and physicians.....	1,173	2,568	2,807	2,278	2,184	2,192	2,169
Industrial concerns.....	1,266	1,817	1,997	1,783	1,825	1,951	2,117
Colleges and universities.....	227	297	343	314	307	314	313
Federal and State laboratories.....	258	1,153	1,329	1,416	1,487	1,322	1,459
Foundations, institutes, and other.....	92	105	119	90	86	92	95
Access permits in effect	602	1,066	823	688	596	549	505
Effective agreements for foreign cooperation	22	54	54	52	54	55	58
Research.....	19	27	24	22	22	22	16
Research and power.....	3	13	13	13	14	14	16
Mutual defense.....	—	9	12	12	12	12	12
Other.....	—	5	5	5	6	7	⁵ 14

— Represents zero. X Not applicable. ¹ Permits authorize construction of 11 reactors.

² Beginning 1963, each reactor licensee was required to have available a "senior" reactor operator.

³ Beginning 1962, State governments began to take over a part of materials licensing under agreements with the AEC. As of Dec. 31, 1965, 11 such Agreement States had issued or assumed control of 4,367 material licenses not reflected in above figures.

⁴ Beginning 1960, includes only parent organizations, which are issued single basic licenses. Subordinate organizations at various locations included for prior years.

⁵ Nine of these are trilateral agreements with the International Atomic Energy Agency which pertain to the application of the (IAEA) safeguards system to U.S.-supplied materials and equipment.

Source: Atomic Energy Commission; *Semiannual Report*, *Annual Report*, and unpublished data.

No. 793. ATOMIC ENERGY COMMISSION—FINANCES AND EMPLOYMENT: 1955 to 1965

[Money figures in millions of dollars. For years ending June 30]

ITEM	1955	1960	1961	1962	1963	1964	1965
Appropriations received	1,210	2,650	2,667	2,547	3,135	2,743	2,625
Operations.....	1,099	2,387	2,456	2,352	2,872	2,343	2,262
Plant and capital equipment.....	111	263	211	195	263	400	363
Plant investment, year end	6,487	7,345	7,665	7,869	8,233	8,578	8,871
Completed plant.....	5,858	7,018	7,202	7,365	7,652	8,170	8,470
Production plants.....	4,646	5,458	5,454	5,345	5,447	5,497	5,464
Research and development facilities.....	707	1,271	1,434	1,714	1,886	2,143	2,370
Other.....	505	289	314	306	318	525	636
Construction in progress.....	620	327	463	504	582	400	401
Cost of operations ¹	1,290	2,619	2,613	2,696	2,713	2,739	2,570
Procurement of raw materials.....	194	717	637	537	478	326	261
Production of nuclear materials.....	588	731	733	689	652	636	571
Weapons development and fabrication.....	259	505	512	700	697	805	763
Development of nuclear reactors.....	115	399	437	433	507	561	536
Civilian.....	22	100	102	94	88	98	98
Military.....	53	187	201	130	145	139	116
Power for space.....	(²)	27	47	96	145	181	179
Other.....	40	85	87	113	129	143	143
Physical research.....	48	133	154	172	199	216	237
Fusion power.....	5	32	30	25	26	23	23
High energy physics.....	9	32	48	59	73	90	99
Other.....	35	68	76	88	99	103	115
Biology and medicine research.....	29	49	54	63	71	77	85
Community operations (net).....	10	7	4	4	5	5	4
Administrative expenses.....	34	51	58	61	67	73	80
Miscellaneous expenses and income (net).....	13	27	24	31	38	40	33
Employment	112,618	122,718	122,989	126,623	135,278	136,620	133,912
Federal Government.....	6,076	6,907	6,846	6,863	7,120	7,268	7,829
Contractor operating.....	82,936	104,612	103,313	106,394	115,012	117,257	114,783
Contractor construction and design.....	23,606	11,199	12,830	13,366	13,146	12,095	11,800

¹ Includes depreciation. ² Costs incurred are included in other categories.Source: Atomic Energy Commission; *Financial Report*.

No. 794. ATOMIC ENERGY COMMISSION—SELECTED DATA ON NUCLEAR REACTORS, URANIUM, RADIOISOTOPES, AND HEAVY WATER: 1960 to 1965

[For years ending June 30, except as noted]

ITEM	1960	1961	1962	1963	1964	1965
NUCLEAR REACTORS						
Development costs.....mil. dol.	399.3	437.3	433.2	507.3	561.2	535.9
Civilian power reactors.....mil. dol.	100.0	102.3	94.3	88.1	88.5	98.1
Military reactors.....mil. dol.	186.8	201.2	129.7	148.7	138.8	115.7
Space propulsion.....mil. dol.	18.4	25.1	42.5	69.7	94.8	98.0
Merchant ship reactors.....mil. dol.	4.2	5.4	9.0	7.5	6.0	3.0
Auxiliary power sources.....mil. dol.	11.5	21.3	53.6	78.2	86.6	86.6
General.....mil. dol.	81.4	82.0	104.1	121.1	136.6	140.5
Electrical generation: ¹						
Capacity.....net electrical megawatts.....	395.8	399.6	804.0	992.8	1,083.4	1,045.2
Gross output.....1,000 megawatt hours.....	590.6	1,884.2	2,471.0	3,807.6	3,810.6	4,350.3
URANIUM						
Quantity.....tons of U ₃ O ₈	34,582	32,260	29,362	26,981	18,655	15,313
Domestic sources.....tons of U ₃ O ₈	16,587	17,758	17,255	15,759	12,584	11,319
Canadian sources.....tons of U ₃ O ₈	13,443	10,251	7,728	7,017	2,239	1,189
Overseas sources.....tons of U ₃ O ₈	4,572	4,251	4,379	4,205	3,832	2,805
Cost.....mil. dol.	704	627	537	480	328	265
Domestic sources.....mil. dol.	298	303	283	248	202	182
Canadian sources.....mil. dol.	296	224	154	137	39	21
Overseas sources.....mil. dol.	110	100	100	95	87	62
Estimated ore reserves ²1,000 tons of contained U ₃ O ₈	233	217	167	160	152	149
Rated ore milling capacity ²1,000 tons per day.....	22	23	21	18	15	12
RADIOISOTOPES ³						
Sales.....\$1,000.....	2,209	1,803	1,311	1,192	1,279	1,601
Exports (domestic) ^{1,4}\$1,000.....	1,286	1,741	1,895	2,548	2,919	6,647
Imports ^{1,4,5}\$1,000.....	1,394	1,509	2,159	(NA)	1,869	2,816
HEAVY WATER						
Sales by AEC.....tons.....	86	99	78	38	30	82
Value.....\$1,000.....	4,867	5,560	4,533	1,937	1,558	4,067

NA Not available. ¹ Calendar year data. ² As of December.³ The Oak Ridge National Laboratory is the AEC's principal distributor of radioisotopes. Sales are made also by other AEC laboratories, and by commercial suppliers. Sales figures include AEC sales made to commercial suppliers but not by them, and also sales by ORNL to other AEC organizations. Shipments to foreign countries are comprised of shipments made by AEC laboratories and by commercial suppliers.⁴ Source: Dept. of Commerce, Bureau of the Census; annual reports, FT 410, U.S. Exports, *Commodity by Country* and FT 125, U.S. Imports of Merchandise for Consumption. ⁵ Through 1963, includes stable isotopes.Source: Atomic Energy Commission; *Semiannual Report*, *Annual Report*, and unpublished data, except as noted.

No. 795. EMPLOYMENT IN THE ATOMIC ENERGY FIELD, BY OCCUPATION AND SEGMENT: 1965

[Based on a survey of the atomic energy employment in establishments covering about four-fifths of all workers in the atomic energy field. Excludes persons in uranium mining, in non-AEC owned facilities of educational institutions, and in nuclear facilities construction]

SEGMENT	Total	Engineers	Scientists	Technicians	All other
All activities.....	140,178	20,146	11,749	22,340	85,943
Commission laboratory and research facilities.....	45,841	7,480	7,022	9,363	21,976
Atomic energy defense production facilities.....	40,841	3,464	1,401	4,244	31,732
Reactor and reactor component design and manufacture.....	16,923	4,879	1,167	3,325	7,552
Production of feed materials.....	7,316	523	423	503	5,867
Nuclear instrument manufacturing.....	4,979	763	230	964	3,022
Uranium milling.....	2,079	128	30	120	1,801
Private research laboratories.....	2,054	298	734	661	361
Design and engineering of nuclear facilities.....	1,951	805	38	510	598
Fuel element fabrication and recovery activities.....	1,658	184	42	401	1,031
Production of special materials for use in reactors.....	1,228	119	54	228	827
Power reactor operation and maintenance.....	1,067	258	28	243	538
Particle accelerator manufacturing.....	933	143	63	226	501
Industrial radiographic service.....	640	48	8	479	105
Processing and packaging radioisotopes.....	407	27	116	142	122
Radioactive waste disposal.....	67	5	7	24	31
Miscellaneous.....	12,194	1,022	386	907	9,879

Source: Dept. of Labor, Bureau of Labor Statistics; unpublished data.

No. 796. SHIPMENTS OF ATOMIC ENERGY EQUIPMENT AND PRODUCTS: 1960 AND 1964

[In thousands of dollars. Excludes construction expenditures, engineering and design costs, research and development expenditures, and products used in atomic energy work which are not uniquely designed for nuclear applications]

ITEM	1960			1964		
	Total	U.S. Government agencies	Other, including export	Total	U.S. Government agencies	Other, including export
Total.....	287,570	(NA)	(NA)	284,706	(NA)	(NA)
Nuclear reactors.....	12,389	(D)	(D)	7,788	(D)	(D)
Reactor components and equipment:						
Primary vessels and tanks.....	11,873	10,064	1,809	15,853	15,665	188
Control rod drive mechanisms and components.....	16,688	13,322	3,366	21,628	11,574	4,089
Accessory instrumentation for reactor control.....	17,746	11,515	6,231	18,276	15,071	3,205
Heat exchangers and condensers.....	19,019	11,932	7,087	30,821	18,638	12,183
Pressurizers, components, and auxiliary equipment.....	2,034	(D)	(D)	8,531	5,247	3,284
Pumps.....	21,390	(D)	(D)	22,748	18,665	4,083
Valves.....	8,319	6,977	1,342	9,246	7,268	1,978
Fuel handling equipment.....	1,950	1,011	939	578	501	77
Complete reactor fuel elements and control rods shipped directly for installation or use in a reactor.....	81,165	73,909	7,256	56,577	50,822	5,755
Partially fabricated reactor fuel element materials and control rods not shipped directly for installation or use in a reactor.....	14,335	11,116	3,219	13,702	9,363	4,339
Core structurals (barrels, cans, boxes, plates, etc., not included above).....	4,067	3,516	551	5,184	2,316	(D)
Reactor moderators, coolants, and reflectors.....	3,278	1,669	1,609	3,023	905	2,118
Other specialized reactor components and equipment.....	5,492	3,556	1,936	14,805	4,627	9,978
Hot laboratory equipment.....	4,158	2,772	1,386	5,880	5,291	589
Shielding.....	5,704	3,066	2,638	6,803	4,399	2,404
Radiation detection and monitoring devices ¹	31,156	11,781	19,375	23,800	(NA)	(NA)
Control and measuring devices containing radioactive isotopes.....	10,391	2,860	7,531			
Radioactive isotopes shipped from non-AEC plants producing isotopes.....	976	55	921	1,294	121	1,173
Radiation sources and other radioactive materials produced from purchased isotopes.....	4,158	652	3,506	8,162	1,366	6,796
Conversion of enriched uranium metal and compounds (excluding production or conversion of normal and depleted uranium) ²	11,282	5,923	5,359	10,207	6,045	4,162

D Withheld to avoid disclosing figures for individual companies. NA Not available.

¹ Includes value of some products for which separate figures are not shown to avoid disclosing figures for individual companies. ² Atomic Energy Commission only. ³ Includes survey monitoring, control devices, and counting equipment. ⁴ Includes commercial irradiation service.

Source: Dept. of Commerce, Bureau of the Census; *Current Industrial Reports*, Series M38Q(63)-1 and MA38B.

No. 797. FEDERAL SPACE PROGRAM—EXPENDITURES, BY AGENCY: 1958 TO 1967

[In millions of dollars. For years ending June 30]

AGENCY	1958	1959	1960	1961	1962	1963	1964	1965	1966 est.	1967 est.
Total	249	434	888	1,468	2,387	4,079	5,930	6,886	7,384	7,064
National Aero. and Space Admin. ¹	89	59	329	694	1,226	2,517	4,131	5,035	5,521	5,211
Department of Defense.....	136	341	518	710	1,029	1,368	1,564	1,592	1,640	1,650
Atomic Energy Commission.....	20	33	41	64	130	181	220	232	201	174
Weather Bureau.....	-	-	-	-	1	12	12	24	19	27
National Science Foundation.....	4	2	-	-	1	1	3	3	4	3

- Represents zero.

¹ Beginning 1959, excludes amounts for aircraft technology.

Source: 1958-1964, U.S. President, *Message . . . Transmitting Report on This Nation's Aeronautics and Space Activities for the Calendar Year 1964* . . . 89th Congress: 1st session; thereafter, Executive Office of the President, Bureau of the Budget; *Special Analyses of the United States Budget, 1967*.

No. 798. ORBITAL MANNED SPACECRAFT: 1961 THROUGH JUNE 1966

COUNTRY, VEHICLE, AND ASTRONAUT	Launching date	PAYLOAD		Perigee (miles)	Apogee (miles)	Revolutions ² (number)	Lifetime (hr. : min.)
		Dimensions ¹ (ft.)	Liftoff weight (lbs.)				
UNITED STATES							
Mercury Atlas: ³							
VI..... Glenn	2-20-62	9.5H-6D	⁴ 4,265	97.6	159.5	3	4:56
VII..... Carpenter	5-24-62	9.5H-6D	⁴ 4,244	100	166.8	3	4:56
VIII..... Schirra	10- 3-62	9.5H-6D	⁴ 4,325	100	176	6	9:13
IX..... Cooper	5-15-63	9.6H-6D	⁴ 4,000	100	166.1	22	34:20
Gemini: ³							
III..... Grissom and Young	3-23-65	18.5H-10D	7,136	100	139	3	4:53
IV..... McDivitt and White	6- 3-65	18.5H-10D	7,879	101	179	67	97:57
V..... Cooper and Conrad	8-21-65	18.5H-10D	7,879	100	216	120	190:56
VI..... Schirra and Stafford	12-15-65	18.5H-10D	7,817	100	161.5	28	26:51
VII..... Borman and Lovell	12- 4-65	18.5H-10D	8,076	100	187.5	206	330:35
VIII..... Armstrong and Scott	3-16-66	18.5H-10D	(NA)	100	185	7.5	10:42
IX..... Cernan and Stafford	6-3-66	18.5H-10D	8,100	⁶ 86	⁶ 144	44	72:21
U.S.S.R.							
Vostok:							
Spacecraft VI..... Gagarin	4-12-61	20H	10,418	108.8	187.7	1	1:48
II..... Titov	8- 6-61	20H-12-14D	10,430	110.3	115.3	17.5	25:48
III..... Nikolayev	8-11-62	(NA)	10,000	107.4	137.2	64+	94:25
IV..... Popovich	8-12-62	(NA)	10,000	111	158	48+	70:59
V..... Bykovsky	6-12-63	(NA)	10,000	99	120	81	119:04
VI..... Tereshkova	6-14-63	(NA)	10,000	108	135	48	70:50
Voskhod:							
I..... Komarov, Yegorov, and Feoktistov	10-12-64	(NA)	(NA)	111	254	16	24:00
II..... Belyayev and Leonov	3-18-65	(NA)	(NA)	107.2	306.9	17	28:02

NA Not available. ¹ H=height; D=diameter.² A revolution is the angular distance a spacecraft must travel to return to a specified line of earth longitude.³ Vehicle lift-off weight, 260,000 lb.; dimensions, 93H-16D.⁴ Recovery weight (in pounds): 2,400, 2,480, 2,440, and 2,480, respectively.⁵ Vehicle lift-off weight, 340,000 lb.; dimensions, 109H-10D; payload recovery weight, 4,700 lb.⁶ Initial orbit.

Source: National Aeronautics and Space Administration; *Space Activities Summary*, various dates. (For U.S.S.R., based on unofficial data from U.S. and Soviet press and radio.)

No. 799. NATIONAL AERONAUTICS AND SPACE ADMINISTRATION—EXPENDITURES FOR RESEARCH AND DEVELOPMENT: 1963 TO 1967

[In millions of dollars. For years ending June 30. Covers activities aimed to develop new knowledge or apply existing knowledge to new uses. Generally excludes expenditures for routine testing, experimental production, and information and training programs. Expenditures for facilities cover land, buildings, and major equipment.]

PROGRAM	PERFORMANCE					FACILITIES				
	1963	1964	1965	1966 est.	1967 est.	1963	1964	1965	1966 est.	1967 est.
Total	2,327	3,733	4,562	5,105	5,000	225	438	531	495	300
Manned space flight.....	1,357	2,436	3,138	3,500	3,410	160	332	401	310	190
Space applications.....	92	111	87	100	100	-	1	2	1	-
Unmanned investigations.....	460	603	639	715	645	23	38	23	20	11
Space technology.....	278	382	431	415	440	24	50	53	50	30
Aircraft technology.....	34	39	58	75	85	2	1	-	4	4
Supporting operations.....	105	162	210	300	320	17	16	51	110	65

- Represents zero.

Source: Executive Office of the President, Bureau of the Budget; unpublished data.

No. 800. SPACE VEHICLES IN EARTH ORBIT: 1966

[As of June 15. Reflects selected data computed and compiled by the Goddard Space Flight Center, North American Air Defense Command (NORAD), and Smithsonian Astrophysical Observatory]

COUNTRY OF LAUNCHING AND VEHICLE	Launch- ing date	Ap- prox. wt. (lb.)	Per- gee (mi.)	Ap- ogee (mi.)	Or- bital period (min.)	COUNTRY OF LAUNCHING AND VEHICLE	Launch- ing date	Ap- prox. wt. (lb.)	Per- gee (mi.)	Ap- ogee (mi.)	Or- bital period (min.)
U.S.						U.S.—con.					
Explorer 1.....	2-1-58	31	211	949	103.7	Injun 3.....	12-13-62	(NA)	146	1,335	109.2
Vanguard 1.....	3-17-58	3	404	2,447	134.0	Relay 1.....	12-13-62	172	820	4,622	185.1
Vanguard 2.....	2-17-59	22	346	2,040	125.4	Explorer 16.....	12-16-62	222	469	730	104.4
Vanguard 3.....	9-18-59	100	319	2,307	129.8	Transit 5A.....	12-19-62	135	434	455	99.1
Explorer 7.....	10-13-59	92	342	667	101.1	Syncom 1.....	2-14-63	86	(NA)	(NA)	(NA)
Tiros 1.....	4-1-60	270	432	462	99.2	Explorer 17.....	4-3-63	405	152	359	92.9
Transit 1B.....	4-13-60	265	213	337	93.4	Telstar 2.....	5-7-63	175	604	6,711	225.3
Midas 2.....	5-24-60	5,000	293	306	94.3	Tiros 7.....	6-10-63	297	389	401	97.4
Transit 2A 1.....	6-22-60	223	380	658	101.6	Research Satel- lite for Geophysics.....	6-28-63	(NA)	258	800	102.0
Grab 1.....	6-22-60	42	380	657	101.6	Syncom 2.....	7-26-63	86	22,198	22,244	1,434.8
Echo 1.....	8-12-60	240	605	1,092	113.0	Explorer 18.....	11-27-63	138	(NA)	(NA)	(NA)
Courier 1B.....	10-4-60	500	594	757	107.0	Centaur 2.....	11-27-63	10,200	297	1,099	107.8
Explorer 8.....	11-3-60	90	259	1,392	112.2	Explorer 19.....	12-19-63	95	406	1,406	115.1
Tiros 2.....	11-23-60	280	385	452	98.2	Tiros 8.....	12-21-63	265	438	487	99.4
Samos 2.....	1-31-61	4,100	291	336	94.7	GGSE 2.....	1-11-64	70	565	581	103.4
Explorer 10.....	3-25-61	79	(NA)	(NA)	(NA)	EGRS 1 2.....	1-11-64	40	569	577	103.4
Explorer 11.....	4-27-61	82	301	1,101	107.9	Solar Rad. 2.....	1-11-64	70	567	580	103.5
Transit 4A 2.....	6-29-61	175	547	621	103.8	Relay 2.....	1-21-64	172	1,283	4,621	194.7
Injun-SR-3 2.....	6-29-61	95	544	624	103.8	Echo 2.....	1-25-64	781	687	723	108.0
Tiros 3.....	7-12-61	285	458	508	100.4	Ariel 2 3.....	3-27-64	150	177	710	99.1
Midas 3.....	7-12-61	3,500	2,081	2,201	161.5	Syncom 3.....	8-19-64	145	22,214	22,240	1,435.3
Explorer 12.....	8-16-61	83	(NA)	(NA)	(NA)	Explorer 20.....	8-25-64	97	539	636	103.9
Midas 4.....	10-21-61	3,500	2,176	2,331	166.0	Nimbus 1.....	8-28-64	830	267	574	98.2
Transit 4B 1.....	11-15-61	200	592	687	105.8	OGO 1.....	9-5-64	1,073	3,063	89,989	3,841.9
Traac 1.....	11-15-61	200	589	692	105.8	Explorer 21.....	10-4-64	136	570	58,588	2,080.3
Tiros 4.....	2-8-62	285	442	521	100.4	Explorer 22.....	10-9-64	116	553	670	104.8
Orb. Sol. Obs. 1.....	3-7-62	440	344	360	96.0	Explorer 23.....	11-6-64	295	287	607	99.2
Ariel 1 3.....	4-26-62	132	242	720	100.3	Explorer 24 1.....	11-21-64	19	365	1,470	115.4
Tiros 5.....	6-19-62	286	367	603	100.5	Explorer 25 1.....	11-21-64	90	332	1,547	116.2
Telstar 1.....	7-10-62	170	586	3,508	157.8	Explorer 26.....	12-21-64	101	186	16,116	451.0
Tiros 6.....	9-18-62	281	430	438	98.7	Tiros 9.....	1-22-65	305	439	1,605	119.2
Alouette 4.....	9-29-62	320	623	642	105.5	Orb. Sol. Obs. 2.....	2-3-65	545	342	388	96.5
Explorer 14.....	10-2-62	89	(NA)	(NA)	(NA)	Pegasus 1.....	2-16-65	3,200	309	452	97.0
Explorer 15.....	10-27-62	100	(NA)	(NA)	(NA)						
Anna 1B.....	10-31-62	355	669	735	107.9						

See footnotes at end of table.

No. 800. SPACE VEHICLES IN EARTH ORBIT: 1966—Continued

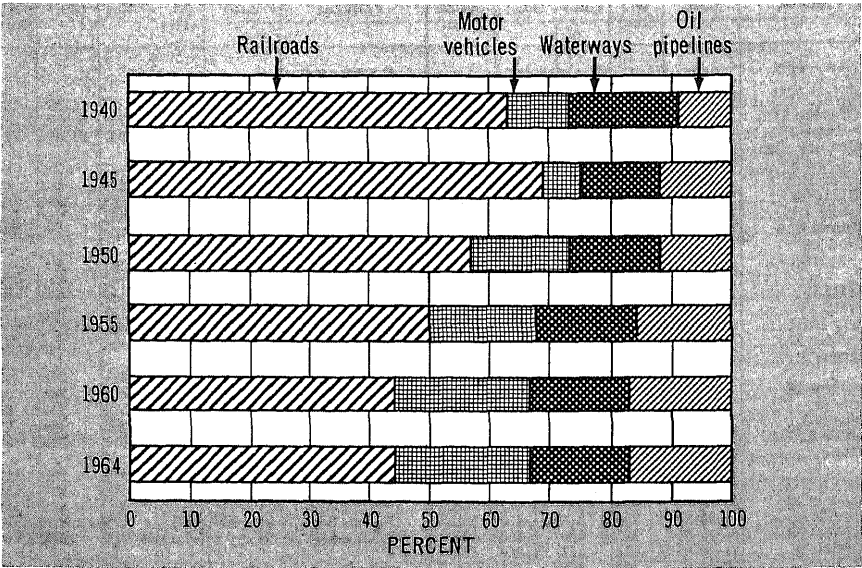
COUNTRY OF LAUNCHING AND VEHICLE	Launch- ing date	Ap- prox. wt. (lb.)	Per- igee (mi.)	Ap- ogee (mi.)	Or- bital period (min.)	COUNTRY OF LAUNCHING AND VEHICLE	Launch- ing date	Ap- prox. wt. (lb.)	Per- igee (mi.)	Ap- ogee (mi.)	Or- bital period (min.)
U.S.—con.						U.S.S.R. con.					
Greb ⁵	3-9-65	(NA)	565	585	103.5	Elektron 3 ¹	7-10-64	(NA)	253	4,360	168.1
Gravity Gra- dient 2 ⁵	3-9-65	(NA)	565	585	103.5	Elektron 4 ¹	7-10-64	(NA)	757	40,698	1,313.8
Gravity Gra- dient 3 ⁵	3-9-65	(NA)	564	585	103.5	Cosmos 41	8-22-64	(NA)	537	24,457	714.9
Solar Rad. ⁵	3-9-65	(NA)	564	585	103.5	Cosmos 44	8-28-64	(NA)	377	538	99.5
EGRS 3 ⁵	3-9-65	(NA)	564	584	103.5	Cosmos 53 ²	1-30-65	(NA)	130	473	94.4
Oscar 3 ⁵	3-9-65	(NA)	565	583	103.5	Cosmos 54 ²	2-21-65	(NA)	162	986	103.5
Suralc ⁵	3-9-65	(NA)	562	584	103.4	Cosmos 55 ²	2-21-65	(NA)	162	984	103.5
Dodeca- hedron ⁵	3-9-65	(NA)	564	585	103.5	Cosmos 56 ²	2-21-65	(NA)	160	921	102.4
EGRS 2	3-11-65	(NA)	179	595	97.1	Cosmos 58	2-26-65	(NA)	363	389	96.8
EGRS IV	4-3-65	(NA)	787	823	111.4	Cosmos 61 ²	3-15-65	(NA)	163	972	103.3
Early Bird	4-6-65	85	21,763	22,740	1,437.3	Cosmos 62 ²	3-15-65	(NA)	163	986	103.6
Explorer 27	4-29-65	132	584	815	107.8	Cosmos 63 ²	3-15-65	(NA)	162	923	102.4
Pegasus 2	5-25-65	23,100	315	455	97.1	Molniya 1	4-23-65	(NA)	496	24,652	720.3
Explorer 28	5-29-65	130	122	164,195	8,558.8	Cosmos 70	7-2-65	(NA)	136	575	96.2
Tiros 10	7-2-65	280	463	520	100.7	Cosmos 71 ⁸	7-16-65	(NA)	321	338	95.2
Pegasus 3	7-30-65	23,100	319	331	95.1	Cosmos 72 ⁸	7-16-65	(NA)	334	365	95.9
EGRS 5	8-10-65	(NA)	706	1,507	122.2	Cosmos 73 ⁸	7-16-65	(NA)	333	346	95.6
OGO 2	10-14-65	(NA)	260	940	104.4	Cosmos 74 ⁸	7-16-65	(NA)	336	381	96.2
Titan 3 C-4	10-15-65	(NA)	453	486	100.0	Cosmos 75 ⁸	7-16-65	(NA)	337	398	96.5
Explorer 29	11-6-65	385	695	1,412	120.3	Cosmos 80 ⁸	9-3-65	(NA)	846	962	115.0
Alouette 4	11-29-65	320	314	1,855	121.4	Cosmos 81 ⁸	9-3-65	(NA)	866	963	115.3
Explorer 30	11-19-65	125	429	560	100.8	Cosmos 82 ⁸	9-3-65	(NA)	877	969	115.7
Explorer 31	11-29-65	215	311	1,850	121.3	Cosmos 83 ⁸	9-3-65	(NA)	895	974	116.1
FR-1 ⁶	12-6-65	135	465	473	99.9	Cosmos 84 ⁸	9-3-65	(NA)	910	980	116.4
Titan 3 C-8 ⁷	12-21-65	(NA)	115	20,876	589.0	Cosmos 86 ⁸	9-18-65	(NA)	797	1,016	115.1
Les 4 ⁷	12-21-65	(NA)	117	20,725	585.3	Cosmos 87 ⁸	9-18-65	(NA)	812	1,023	115.5
Oscar IV ⁷	12-21-65	(NA)	100	20,528	579.4	Cosmos 88 ⁸	9-18-65	(NA)	823	1,033	115.8
Les 3 ⁷	12-21-65	(NA)	126	20,195	569.7	Cosmos 89 ⁸	9-18-65	(NA)	841	1,038	116.2
ESSA-1	2-3-66	305	439	522	100.3	Cosmos 90 ⁸	9-18-65	(NA)	856	1,046	116.7
ESSA-2	2-28-66	290	844	880	113.5	2nd Molniya I	10-13-65	(NA)	208	24,829	716.4
Gemini Agena	3-16-66	7,116	246	249	92.6	Cosmos 91	11-26-65	(NA)	132	1,214	107.0
OVI-4	3-30-66	(NA)	551	629	104.1	Cosmos 100	12-17-65	(NA)	393	407	97.6
OVI-5	3-30-66	(NA)	613	658	105.6	Cosmos 101	12-21-65	(NA)	156	308	91.9
OAO 1	4-8-66	3,900	493	500	100.9	Cosmos 103	12-28-65	(NA)	370	393	97.0
OV3-1	4-22-66	(NA)	219	3,564	151.7	Cosmos 106	1-25-66	(NA)	176	329	92.7
Nimbus 2	5-15-66	912	683	735	108.1	Cosmos 108	2-11-66	(NA)	137	511	95.1
Explorer 32	5-25-66	490	176	1,691	116.0	3rd Molniya I	4-25-66	(NA)	252	24,591	709.5
ATDA	6-1-66	1,700	178	178	90.3	Cosmos 116	4-26-66	(NA)	178	272	91.8
OGO 3	6-7-66	113	170	75,769	2,907.9	Cosmos 118	5-11-66	(NA)	364	408	97.1
EGRS VI	6-9-66	(NA)	104	2,266	125.1	Cosmos 119	5-24-66	(NA)	130	767	99.3
ERS-16	6-9-66	(NA)	112	2,251	125.0	Cosmos 120	6-8-66	(NA)	125	177	89.4
U.S.S.R.						FRANCE					
Polyot 1	11-1-63	(NA)	215	857	102.2	A-1	11-26-65	(NA)	326	1,121	108.7
Elektron 1 ¹	1-30-64	(NA)	251	4,418	169.2	FR-1 ⁶	12-6-65	135	465	473	99.9
Elektron 2 ¹	1-30-64	(NA)	1,152	41,365	1,356.4	D-1A	2-17-66	(NA)	313	1,699	118.7

NA Not available.

¹ 2 satel ites launched at once.² 3 satellites launched at once.³ Launched by NASA and British National Committee for Space Research.⁴ Launched by NASA and Canadian Defense Research Board.⁵ 8 satellites launched at once.⁶ Launched by NASA and Centre National D'Etudes Spatiales of France.⁷ 4 satellites launched at once.⁸ 5 satellites launched at once.Source: National Aeronautics and Space Administration; *Satellite Situation Report*, June 15, 1966, and *Space Activities Summary*, various dates.

FIG. XXXVI. PERCENT DISTRIBUTION OF TON-MILES OF DOMESTIC INTERCITY FREIGHT TRAFFIC, BY TYPE OF TRANSPORTATION: 1940 TO 1964

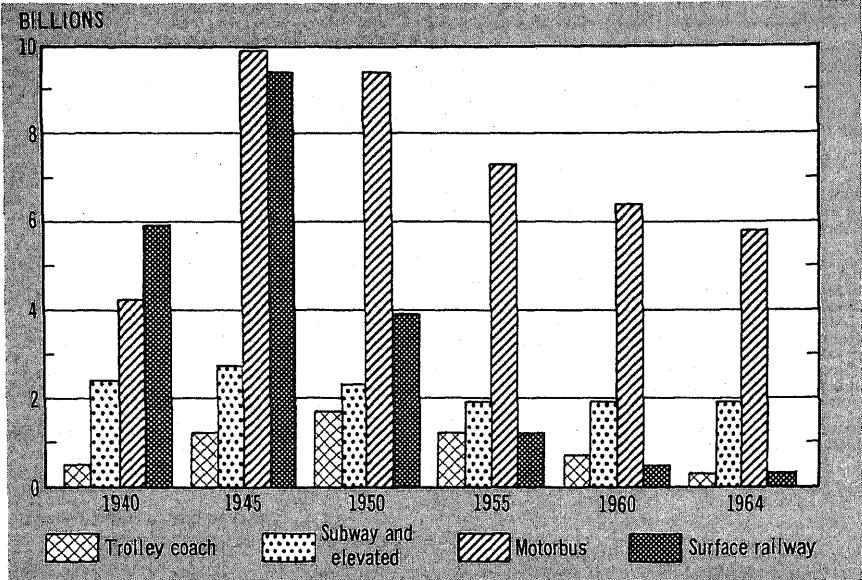
[Airways not shown separately—less than 1 percent. See table 802]



Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from Interstate Commerce Commission.

FIG. XXXVII. PASSENGERS CARRIED BY PUBLIC TRANSPORTATION: 1940 TO 1964

[See table 832]



Source: Chart prepared by Dept. of Commerce, Bureau of the Census. Data from American Transit Association, New York, N.Y.

Section 21

Transportation—Land

This section presents statistics relating to the mileage, control, and financing of public roads and to the transportation of persons and goods by land. The modes of transport included are passenger car, truck, railroad, bus and streetcar, and pipeline.

The principal compiler of data on public roads and motor-vehicle registrations is the Bureau of Public Roads of the Department of Commerce which, since 1945, has issued the annual *Highway Statistics*. Its *Highway Statistics, Summary to 1955*, presents public roads data carried back for 20 to 50 years. The principal sources of land transport data, other than for public roads and motor-vehicle registrations, are the Interstate Commerce Commission's *Annual Report* and its annual *Transport Statistics in the United States*, Part 1, which contains data on railroads. Other important publications of the Interstate Commerce Commission in the field of land transport include the annual *Statistics of Class I Motor Carriers* (issued as Part 7 of *Transport Statistics*); the annual *Statistics of Oil Pipe-Line Companies* (issued as Part 6 of *Transport Statistics*); the annual *Accident Bulletin*, and, for historical data on railroads, *Statistics of Railways in the United States*, published annually from 1887 through 1953. Another basic source of data is the 1963 *Census of Transportation*. It was conducted by the Bureau of the Census and consisted of 4 parts: *Commodity Transportation Survey*, *Passenger Transportation Survey*, *Truck Inventory and Use Survey*, and *Bus and Truck Carrier Survey*.

Additional governmental sources are the Agriculture Department's Bulletin 1279, *Rural Highway Mileage, Income, and Expenditures, 1921-22*, which contains data for the 1904, 1909, 1914, and 1921 road mileage surveys; and the *Census of Manufactures* and the *Annual Survey of Manufactures* of the Bureau of the Census, which contain statistics on the motor-vehicle and equipment industry. Data from these Bureau of the Census reports are included in section 29, *Manufactures*, of this volume. Non-governmental data can be found in *Cars of Revenue Freight Loaded*, published weekly and annually by the Association of American Railroads, Washington, D.C.; *Bus Facts*, issued annually by the National Association of Motor Bus Owners, also of Washington; the *Transit Fact Book*, containing street railway and motorbus statistics, published annually by the American Transit Association, New York; and *Transportation Facts and Trends*, issued by the Transportation Association of America, Washington. Useful annual handbooks in the field of motor-vehicle transport are *Automobile Facts and Figures* and *Motor Truck Facts*, both issued by the Automobile Manufacturers Association, Detroit; *American Trucking Trends*, issued by the American Trucking Association, Washington; and *Accident Facts*, issued by the National Safety Council, Chicago.

Rural and urban roads.—The terms "rural," "urban," and "municipal" are used in different ways in different tables in this section. Because of special problems and purposes, it is not possible to apply identical definitions and groupings to all types of data. Definitions are given in table headnotes where pertinent.

Highway systems.—The Federal-Aid Highway Act of 1916 provides for the sharing of highway construction costs between the States and the Federal Government with the initiative retained by each State for choosing projects and carrying them out. The planning and development of Federal-aid systems began in 1921. Federal funds share with State funds in costs of engineering, construction, and right-of-way acquisition on the designated systems while other charges, such as maintenance and policing, are borne entirely by the States and local agencies.

The Federal-aid primary system connects all of the principal cities, county seats, ports, manufacturing areas, and other traffic generating areas. In general, these are

the same as the main State trunkline roads. The Federal-aid secondary system consists of important feeder roads linking the farms, factories, distribution outlets, and smaller communities with the primary system.

Motor carriers.—Prior to 1950, class I for-hire motor carriers were classified by the Interstate Commerce Commission as those with \$100,000 or more of gross annual operating revenue. Beginning 1950, the class I minimum became \$200,000. Beginning 1957, the class I minimum for motor carriers of property was increased to \$1,000,000; however, the minimum for class I motor carriers of passengers remained at \$200,000.

Railroads.—The total railroad mileage of the United States comprises companies reporting to the Interstate Commerce Commission, grouped as follows: (1) Regular interstate carriers (and their nonoperating subsidiaries); (2) switching and terminal railroads; and (3) private railroads (identified by the Commission as "circular" because they report on brief circulars, or as "unofficial" when their reports are received too late for tabulation). For the most part, circular and unofficial companies, and switching and terminal railroads, are not included in the statistics.

Nonoperating subsidiaries comprise proprietary companies, which are covered by the reports of operating carriers, and lessor companies, which have no traffic and whose reports appear only in statistics of capitalization, dividends, and investment.

Operating railroads are classified on the basis of operating revenues. Prior to 1956, the classification was as follows: Class I, those having more than \$1,000,000 gross annual operating revenue; class II, from \$100,000 to \$1,000,000; and class III, less than \$100,000. From 1956 to 1964, the following classification was in effect: Class I, \$3,000,000 or more; and class II, under \$3,000,000. Effective January 1965, the classification was changed to the following: Class I, \$5,000,000 or more; and class II, under \$5,000,000.

Historical statistics.—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

No. 801. OPERATING REVENUES, BY TRANSPORT AGENCY: 1940 TO 1965

[Excludes Alaska and Hawaii, except as noted]

TRANSPORT AGENCY	1940	1945	1950	1955	1960	1964	1965 (prel.)
REVENUES (mil. dol.)							
Pullman Company.....	60	148	104	95	56	39	36
Electric railways ¹	53	87	79	60	23	13	13
Railway Express ²	120	284	223	241	248	298	316
Railroads ³	4,459	9,136	9,820	10,495	9,899	10,252	10,702
Waterlines ⁴	113	173	330	452	427	405	421
Pipelines (oil) ⁵	226	304	442	678	770	865	904
Domestic scheduled air carriers ⁷	77	215	558	1,215	2,129	3,095	3,608
Motor carriers of property ⁴	898	1,840	3,737	5,535	7,214	9,155	10,086
Motor carriers of passengers ⁸	176	652	539	552	667	802	844
INDEX (1939=100)							
Railroads ¹	108	221	237	254	239	248	259
Pipelines (oil).....	106	143	208	319	363	408	426
Domestic scheduled air carriers ⁷	138	384	998	2,152	3,802	5,527	6,443
Motor carriers of property ⁴	109	178	472	699	911	1,156	1,273
Motor carriers of passengers.....	104	327	319	331	394	475	499

¹ Since Jan. 1, 1962, 1 electric railway has been abandoned, 1 reclassified as a motor carrier, 1 as a class II railway lessor, 1 has been taken over by a port authority corporation, 1 merged into another operating electric railway, and 1 changed ownership.

² After deducting payments to others for express privileges.

³ Includes line-haul and switching and terminal companies.

⁴ Beginning 1960, includes Alaska and Hawaii.

⁵ Includes only revenues from domestic traffic of carriers under jurisdiction of Interstate Commerce Commission.

⁶ Beginning 1960, includes 1 pipeline operating in Alaska.

⁷ Source: Federal Aviation Agency; *FAA Statistical Handbook of Aviation*. Includes Hawaii and, beginning 1955, Alaska.

⁸ Excludes motor-carrier revenues of electric railways, included under electric railways.

Source: Interstate Commerce Commission; *Annual Report, Statistics of Class I, II, and III Motor Carriers, 1939-1956* (Statement No. 589), and *Transport Economics*, except as noted.

NO. 802. VOLUME OF DOMESTIC INTERCITY FREIGHT TRAFFIC, BY TYPE OF TRANSPORTATION: 1940 TO 1964

[In millions of ton-miles, except percent. Airways, prior to 1959, and other types of transportation, prior to 1960, exclude Alaska and Hawaii, except as noted. A ton-mile is the movement of 1 ton (2,000 pounds) of freight for the distance of 1 mile. Comprises public and private traffic, both revenue and nonrevenue. See also *Historical Statistics, Colonial Times to 1957*, series Q 1-11]

YEAR	Total traffic, volume	RAILROADS ¹		MOTOR VEHICLES		INLAND WATERWAYS ²		OIL PIPELINES		AIRWAYS ³	
		Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
1940.....	651, 204	411, 813	63. 24	62, 043	9. 53	118, 057	18. 13	59, 277	9. 10	14	0. 002
1945.....	1, 072, 490	736, 184	68. 64	66, 948	6. 24	142, 737	13. 31	126, 530	11. 80	91	0. 008
1950.....	1, 094, 160	628, 463	57. 44	172, 860	15. 80	163, 844	14. 93	129, 175	11. 81	318	0. 029
1955.....	1, 298, 060	654, 573	50. 43	223, 254	17. 20	216, 508	16. 68	203, 244	15. 66	481	0. 037
1956.....	1, 376, 320	676, 974	49. 19	248, 846	18. 08	219, 978	15. 98	229, 959	16. 71	563	0. 041
1957.....	1, 354, 012	644, 746	47. 62	254, 174	18. 77	231, 792	17. 12	222, 728	16. 45	572	0. 042
1958.....	1, 231, 184	574, 756	46. 68	255, 544	20. 76	189, 016	15. 35	211, 289	17. 16	579	0. 047
1959.....	1, 302, 570	599, 347	46. 01	278, 934	21. 41	196, 559	15. 09	226, 991	17. 43	739	0. 057
1960.....	1, 329, 995	594, 855	44. 73	285, 483	21. 46	220, 253	16. 56	228, 626	17. 19	778	0. 058
1961.....	1, 325, 816	585, 558	44. 17	296, 485	22. 36	209, 706	15. 82	233, 172	17. 59	895	0. 068
1962.....	1, 387, 228	615, 720	44. 38	309, 407	22. 30	223, 089	16. 08	237, 723	17. 14	1, 289	0. 093
1963.....	1, 464, 363	643, 664	43. 96	331, 800	22. 66	234, 172	15. 99	253, 431	17. 31	1, 296	0. 089
1964.....	1, 545, 172	680, 207	44. 02	347, 470	22. 49	250, 165	16. 19	265, 826	17. 20	1, 504	0. 097

¹ Includes electric railways, express, and mail.

² Includes Great Lakes. Includes Alaska for all years and Hawaii beginning 1959.

³ Domestic revenue service only. Includes express, mail, and excess baggage.

⁴ Includes Alaska and Hawaii.

Source: Interstate Commerce Commission; *Annual Report*, Statement No. 6103, *Intercity Ton-Miles, 1959-1959*, April 1961 and *Transport Economics*, January 1966.

NO. 803. VOLUME OF DOMESTIC INTERCITY PASSENGER TRAFFIC, BY TYPE OF TRANSPORTATION: 1950 TO 1964

[In millions of passenger-miles, except percent. Airways, prior to 1959, and other types of transportation, prior to 1960, exclude Alaska and Hawaii. A passenger-mile is the movement of 1 passenger for the distance of 1 mile. Comprises public and private traffic, both revenue and nonrevenue]

YEAR	Total traffic, volume	PRIVATE AUTOMOBILES		AIRWAYS ¹		COMMERCIAL MOTOR CARRIERS		RAILROADS ²		INLAND WATERWAYS ³	
		Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total
1950.....	508, 472	438, 293	86. 20	10, 072	1. 98	26, 436	5. 20	32, 481	6. 39	1, 190	0. 23
1953.....	655, 338	575, 763	87. 86	17, 430	2. 66	28, 397	4. 33	32, 261	4. 92	1, 487	0. 23
1954.....	673, 404	597, 054	88. 66	19, 568	2. 91	25, 614	3. 80	29, 467	4. 38	1, 701	0. 25
1955.....	716, 062	637, 369	89. 01	22, 741	3. 18	25, 519	3. 56	28, 695	4. 01	1, 738	0. 24
1956.....	750, 861	669, 679	89. 19	25, 523	3. 40	25, 189	3. 35	28, 610	3. 81	1, 860	0. 25
1957.....	748, 248	670, 484	89. 61	28, 128	3. 76	21, 455	2. 87	26, 251	3. 51	1, 930	0. 26
1958.....	759, 848	684, 892	90. 14	28, 522	3. 75	20, 756	2. 73	23, 605	3. 11	2, 073	0. 27
1959.....	764, 735	687, 406	89. 89	32, 566	4. 26	20, 364	2. 66	22, 373	2. 93	2, 028	0. 26
1960.....	784, 195	706, 079	90. 04	33, 958	4. 33	19, 896	2. 54	21, 574	2. 75	2, 688	0. 34
1961.....	790, 810	713, 636	90. 24	34, 599	4. 38	19, 703	2. 49	20, 527	2. 60	2, 345	0. 30
1962.....	817, 701	735, 931	90. 00	37, 574	4. 60	21, 279	2. 60	20, 181	2. 47	2, 736	0. 33
1963.....	851, 954	765, 877	89. 90	42, 765	5. 02	21, 917	2. 57	18, 632	2. 19	2, 763	0. 32
1964.....	895, 208	801, 796	89. 57	49, 500	5. 53	22, 700	2. 54	18, 374	2. 05	2, 838	0. 32

¹ Includes domestic commercial revenue service and private pleasure and business flying.

² Includes electric railways.

³ Includes Great Lakes.

Source: Interstate Commerce Commission; *Annual Report*, and *Transport Economics*, February 1966.

No. 804. RURAL AND MUNICIPAL HIGHWAY MILEAGE, BY GOVERNMENTAL CONTROL: 1930 TO 1964

[In thousands. As of December 31. Prior to 1960, excludes Alaska and Hawaii. Municipal roads are those within incorporated places, densely populated New England towns, and certain of the more populous unincorporated areas. All other roads are classed as rural. See *Historical Statistics, Colonial Times to 1957*, series Q 246, and, for similar but not exactly comparable data, series Q 247 and Q 251]

MILEAGE AND CONTROL	1930	1940	1950	1955	1960	1961	1962	1963	1964
Total mileage	(NA)	(NA)	3,313	3,418	3,546	3,573	3,600	3,620	3,644
Rural mileage.....	3,009	2,990	2,990	3,045	3,116	3,127	3,145	3,145	3,153
Under State control.....	324	524	581	619	659	665	674	678	682
Under local control.....	2,685	2,466	{ 2,336 73	2,333 93	2,345 112	2,346 116	2,351 120	2,346 121	2,344 127
Municipal mileage.....	(NA)	(NA)	323	373	430	446	455	475	491
Under State control.....	(NA)	27	36	42	50	54	56	59	62
Under local control.....	(NA)	(NA)	287	331	380	392	399	416	429

NA Not available.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 805. HIGHWAY MILEAGE OF RURAL ROADS: 1930 TO 1964

[In thousands. As of December 31. Prior to 1960, excludes Alaska and Hawaii. For definition of rural roads, see headnote, table 804. See *Historical Statistics, Colonial Times to 1957*, series Q 247-250, for similar but not exactly comparable data]

TYPE AND CONTROL	1930	1940	1950	1955	1960	1961	1962	1963	1964
All rural roads	3,009	2,990	2,990	3,045	3,116	3,127	3,145	3,146	3,153
Primary State highways.....	324	329	363	387	403	406	407	409	411
Secondary State highways.....		81	88	91	105	106	110	111	112
County roads under State control.....		114	122	131	136	137	137	136	136
County and local roads ¹	2,685	2,466	2,417	2,436	2,472	2,478	2,491	2,489	2,494
Surfaced rural roads	694	1,340	1,679	1,942	2,165	2,179	2,229	2,253	2,272
Primary State highways.....	227	302	351	381	399	401	402	405	406
Secondary State highways.....		65	73	84	100	101	105	107	108
County roads under State control.....		55	83	103	111	113	115	115	116
County and local roads ¹	467	918	1,172	1,374	1,555	1,564	1,607	1,626	1,642
Nonsurfaced rural roads ²	2,315	1,650	1,311	1,103	951	948	916	892	881
Primary State highways.....	97	27	12	6	4	5	5	4	5
Secondary State highways.....		16	15	7	5	5	5	4	4
County roads under State control.....		59	89	28	25	24	22	21	20
County and local roads ¹	2,218	1,548	1,245	1,062	917	914	884	863	852

-o- Represents zero. ¹ Includes mileage in national and State parks, forests, reservations, etc., not included as part of State or local systems. ² Includes mileage not classified by type of surface.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 806. HIGHWAY CONSTRUCTION—CONTRACTS AWARDED, BY OWNERSHIP: 1947 TO 1965

[In millions of dollars. Prior to 1960, excludes Alaska and Hawaii. Includes force-account work authorized to start on Federal and State projects]

OWNERSHIP	1947	1950	1955	1960	1961	1962	1963	1964	1965
All construction	1,108	1,816	2,922	4,756	4,482	4,891	4,989	5,586	5,609
Federally owned.....	25	36	59	129	92	95	142	116	130
State owned.....	892	1,492	2,560	3,901	3,803	4,241	4,275	4,745	4,803
Federally aided projects:									
Total value.....	635	798	1,256	3,097	3,168	3,253	3,730	4,055	3,899
Federal funds.....	329	415	607	2,218	2,289	2,506	2,770	3,084	2,979
Independent State projects:									
Total value.....	257	694	1,304	804	634	988	546	690	904
Toll facilities.....	(NA)	228	695	165	92	326	27	82	49
Locally owned ¹	191	289	374	725	588	555	572	725	676

NA Not available.

¹ By municipalities, counties, and local level special districts.

Source: Dept. of Commerce, Bureau of the Census. In Dept. of Commerce, Business and Defense Services Administration; *Construction Review*.

No. 807. MUNICIPAL AND RURAL HIGHWAY MILEAGE—STATES: 1964

[As of December 31. For definition of municipal and rural roads, see headnote, table 804. Compiled for latest available year from reports of State authorities and planning survey data]

STATE	Total municipal and rural	Municipal	RURAL					
			Total	Type		Governmental control		
				Surfaced	Nonsurfaced	State ¹	Local	Federal ²
United States.....	3,644,069	491,492	3,152,577	2,271,886	880,691	3,681,374	2,344,123	127,080
Alabama.....	76,558	10,525	66,033	57,074	8,959	18,141	47,892	-
Alaska.....	6,430	511	5,919	2,522	3,397	4,155	1,640	124
Arizona.....	39,013	5,718	33,300	13,394	19,906	4,968	16,265	12,067
Arkansas.....	80,296	6,876	73,420	44,917	28,503	11,353	60,116	1,951
California.....	156,007	37,457	118,550	75,661	42,889	14,598	78,744	25,208
Colorado.....	79,584	5,924	73,660	39,685	33,975	8,027	65,474	159
Connecticut.....	17,456	12,283	5,173	5,071	102	1,503	3,670	-
Delaware.....	4,769	1,320	3,449	3,440	9	3,440	-	-
Dist. of Columbia.....	1,243	1,243	(X)	(X)	(X)	(X)	(X)	(X)
Florida.....	76,941	17,285	59,656	36,536	23,120	15,130	44,526	-
Georgia.....	96,155	13,467	82,688	49,849	32,839	14,906	67,754	28
Hawaii.....	3,271	837	2,434	2,251	183	1,048	1,319	67
Idaho.....	41,854	2,606	39,248	25,119	14,129	4,656	26,805	7,787
Illinois.....	127,644	25,121	102,523	94,988	7,535	13,009	89,514	-
Indiana.....	104,476	17,177	87,299	80,580	6,719	9,896	77,403	-
Iowa.....	112,104	12,453	99,651	91,020	8,631	9,029	90,622	-
Kansas.....	132,627	8,990	123,637	79,940	43,697	9,990	113,638	9
Kentucky.....	69,549	4,753	65,096	50,016	15,080	20,763	44,069	264
Louisiana.....	49,831	9,399	40,432	34,780	5,652	14,108	26,324	-
Maine.....	20,998	2,341	18,657	16,410	2,247	10,846	7,669	142
Maryland.....	23,092	3,786	19,306	19,271	35	4,707	14,599	-
Massachusetts.....	27,014	19,651	7,363	6,482	881	1,075	6,288	-
Michigan.....	112,912	18,206	94,706	75,702	19,004	8,043	86,663	-
Minnesota.....	124,910	15,087	109,823	97,235	12,588	11,330	97,163	1,330
Mississippi.....	65,107	5,936	59,171	55,778	3,393	9,798	49,181	192
Missouri.....	114,012	14,195	99,817	90,533	9,284	29,867	69,352	598
Montana.....	74,328	2,041	72,287	31,597	40,690	11,383	53,369	7,535
Nebraska.....	102,874	5,875	96,999	61,262	35,737	9,241	87,474	284
Nevada.....	45,879	1,360	44,519	12,900	31,619	6,239	38,279	1
New Hampshire.....	14,377	1,579	12,798	10,066	2,732	3,897	8,815	86
New Jersey.....	32,409	11,333	21,076	18,876	2,200	1,778	19,298	-
New Mexico.....	65,725	3,349	62,376	14,648	47,728	11,411	45,782	5,183
New York.....	101,777	17,483	84,294	75,166	9,138	13,760	70,524	10
North Carolina.....	83,382	12,321	71,061	61,698	9,363	69,417	-	1,644
North Dakota.....	107,689	2,980	104,689	60,869	43,720	6,199	97,843	547
Ohio.....	106,138	21,823	84,315	82,619	1,696	15,994	68,321	-
Oklahoma.....	105,545	11,202	94,343	61,579	32,764	11,293	83,050	-
Oregon.....	80,810	5,440	75,370	44,681	30,689	8,573	34,222	32,575
Pennsylvania.....	110,923	21,819	89,104	69,327	19,777	42,809	45,987	808
Rhode Island.....	4,508	3,157	1,351	1,250	101	748	603	-
South Carolina.....	58,029	5,906	52,123	29,595	22,173	28,155	23,968	-
South Dakota.....	87,179	2,821	84,358	52,525	31,833	7,969	74,687	1,702
Tennessee.....	76,034	8,590	67,444	65,597	1,847	8,243	58,318	883
Texas.....	238,649	41,666	196,983	127,718	69,265	57,046	139,937	-
Utah.....	36,891	4,111	32,780	16,892	15,888	5,031	19,372	8,377
Vermont.....	13,804	907	12,897	10,903	1,994	2,143	10,730	24
Virginia.....	58,404	7,333	51,071	49,830	1,241	48,636	719	1,716
Washington.....	68,913	8,185	60,728	48,489	12,239	9,956	39,201	11,571
West Virginia.....	34,900	3,044	31,856	21,456	10,406	31,082	-	774
Wisconsin.....	99,869	12,896	86,973	80,896	6,077	10,554	76,353	66
Wyoming.....	71,000	1,129	69,871	12,854	57,017	5,422	60,581	3,868

- Represents zero. X Not applicable.

¹ Includes 22,117 miles of State park, forest, institutional, and other roads, rural and municipal, that are not part of State or local highway systems. Also includes 3,850 miles of toll roads, bridges, tunnels, etc.

² Comprises mileage of roads not forming a part of State or local highway systems.

³ Includes mileage of county roads under State control in Alabama (8 counties), Delaware, Nevada, North Carolina, Virginia (all but 2 counties), and West Virginia; farm-to-market system in Louisiana; and the State-aid system in Maine.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1964*.

No. 808. MILEAGE AND COST OF DESIGNATED FEDERAL-AID HIGHWAY SYSTEMS: 1917 TO 1965

[Prior to 1958, excludes Alaska; includes Puerto Rico. See also *Historical Statistics, Colonial Times to 1957*, series Q 261-264]

PERIOD OR YEAR	MILES OF HIGHWAY		COST ³ (mil. dol.)			YEAR	MILES OF HIGHWAY		COST ³ (mil. dol.)		
	Total existent ¹	Com- pleted during year ²	Total	Federal funds	State funds		Total existent ¹	Com- pleted during year ²	Total	Federal funds	State funds
1917-1921.....	(NA)	12,919	222	95	127	1958.....	830,569	28,137	2,744	1,669	1,075
1925.....	173,797	11,001	221	100	121	1959.....	854,294	32,633	3,709	2,518	1,191
1930.....	193,049	10,339	237	100	137	1960.....	866,841	20,969	3,284	2,273	992
1935.....	214,000	12,811	242	218	24	1961.....	879,539	21,313	3,285	2,339	925
1940.....	234,112	11,549	269	150	119	1962.....	886,678	21,051	3,423	2,437	986
1945.....	232,772	3,035	101	76	25	1963.....	891,927	19,561	3,790	2,767	1,023
1950.....	640,753	19,876	753	390	364	1964.....	901,120	19,487	4,500	3,385	1,175
1955.....	741,824	22,571	1,287	666	621	1965.....	(NA)	17,433	4,569	3,430	1,139

NA Not available.

¹ Through 1945, total existing mileage of Federal-aid primary system; beginning 1950, includes secondary system. Through 1955, data as of June 30; thereafter, as of Dec. 31.

² Comprises construction and reconstruction mileage.

³ Represents actual expenditures of funds on calendar-year basis. Beginning 1935, includes money spent on public works and defense highways. Beginning 1940, includes secondary highways.

Source: Dept. of Commerce, Bureau of Public Roads; annual reports, *Highway Statistics and Highway Progress, 1965*, and releases.

No. 809. FEDERAL-AID PAYMENTS TO STATE AND LOCAL GOVERNMENTS FOR HIGHWAY CONSTRUCTION—STATES AND PUERTO RICO: 1960 TO 1965

[In millions of dollars. For years ending June 30]

STATE OR OTHER AREA	1960	1963	1964	1965	STATE OR OTHER AREA	1960	1963	1964	1965
Total	2,941.7	3,022.5	3,644.2	4,017.7	Mo.....	76.2	79.3	86.6	113.9
U.S.....	2,942.8	3,015.5	3,631.6	3,993.2	Mont.....	30.7	42.4	52.0	59.1
Ala.....	50.9	40.6	49.4	90.5	Neb.....	27.2	38.4	39.2	37.3
Alaska.....	16.1	25.0	48.0	53.3	Nev.....	10.1	17.5	32.3	41.5
Ariz.....	30.6	46.3	41.9	66.3	N.H.....	19.7	14.1	18.2	16.1
Ark.....	31.9	38.0	49.2	38.8	N.J.....	53.1	67.1	65.5	65.1
Calif.....	171.8	256.3	300.3	324.3	N. Mex.....	25.6	35.3	36.8	47.8
Colo.....	36.0	41.3	44.0	60.6	N. Y.....	217.2	162.7	175.9	197.5
Conn.....	28.7	28.7	53.4	48.4	N. C.....	59.4	38.3	47.2	51.1
Del.....	8.2	13.9	9.9	16.7	N. Dak.....	32.7	17.1	30.2	31.1
D.C.....	16.1	31.2	33.8	26.4	Ohio.....	158.9	171.9	222.6	185.8
Fla.....	74.5	53.7	93.0	87.6	Okl.....	33.2	34.8	48.4	57.5
Ga.....	60.6	63.8	86.9	81.1	Oreg.....	54.2	63.8	76.2	76.8
Hawaii.....	4.3	6.0	8.7	9.7	Pa.....	116.5	137.3	146.7	141.9
Idaho.....	25.7	28.3	25.3	39.6	R.I.....	12.5	15.1	17.9	24.8
Ill.....	200.1	161.0	195.5	209.0	S.C.....	46.8	27.0	32.3	34.7
Ind.....	74.4	73.2	84.3	92.9	S. Dak.....	26.1	22.7	32.0	45.4
Iowa.....	67.7	34.1	53.6	53.4	Tenn.....	66.9	98.3	98.7	108.4
Kans.....	51.3	27.4	44.4	50.8	Tex.....	197.7	164.7	180.0	216.3
Ky.....	66.0	65.2	76.6	60.1	Utah.....	33.5	34.5	42.7	60.9
La.....	69.8	75.2	96.8	102.9	Vt.....	16.6	18.0	20.3	24.7
Maine.....	19.9	20.2	24.0	23.8	Va.....	53.4	92.3	114.5	163.4
Md.....	27.3	37.7	40.2	49.7	Wash.....	44.1	61.6	71.3	75.2
Mass.....	66.8	53.1	71.1	77.6	W. Va.....	46.8	18.0	26.8	55.8
Mich.....	96.4	121.7	161.3	132.8	Wis.....	61.4	58.2	59.4	53.7
Minn.....	64.9	64.2	84.7	105.0	Wyo.....	26.1	38.9	36.5	48.3
Miss.....	36.2	39.4	45.1	57.8	P.R.....	7.3	6.3	6.7	6.9
					Undist. to States, etc.	8.4	.8	5.9	17.3

¹ Includes \$0.4 million for "Control of Outdoor Advertising." ² Deduct.

Source: Treasury Dept.; *Annual Report of the Secretary*.

Federal-Aid Highway Systems

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No. 810. FEDERAL-AID HIGHWAY SYSTEMS, 1964, AND PROJECTS, 1965—STATES AND PUERTO RICO

[Money figures in millions of dollars. Systems as of December 31, and projects as of June 30. Projects comprise those financed from the Federal-aid primary, secondary, urban, and interstate funds. See text, pp. 559 and 560]

STATE OR OTHER AREA	SYSTEMS (miles), 1964				PROJECTS, 1965					
	Primary			Second- ary	Completed during fiscal year			Under construction		
	Total	National system of interstate highways			Miles	Total cost	Federal funds	Miles	Total cost	Federal funds
		Desig- nated	Open to traffic							
Total.....	267,774	140,930	19,019	633,346	18,783	4,563.3	3,391.9	25,883	12,228.1	9,581.8
United States.....	267,237	140,930	19,019	632,221	18,771	4,551.4	3,386.0	25,821	12,189.1	9,563.4
Alabama.....	6,610	875	301	24,903	592	72.8	46.3	665	289.5	236.9
Alaska.....	3,286	-	-	2,254	158	39.0	36.9	307	89.7	83.2
Arizona.....	3,196	1,166	622	4,186	232	49.4	43.6	400	134.4	122.9
Arkansas.....	4,044	520	143	13,797	499	78.7	57.8	795	175.3	139.3
California.....	9,638	2,177	905	12,700	420	340.0	251.8	550	1,343.5	1,062.6
Colorado.....	4,548	946	407	4,193	313	55.3	40.7	392	107.8	87.4
Connecticut.....	1,274	297	200	1,250	17	50.7	35.3	55	226.2	174.3
Delaware.....	656	41	17	1,473	10	11.0	7.4	87	74.7	59.3
Dist. of Columbia.....	167	29	8	125	14	57.5	40.4	11	124.2	105.8
Florida.....	5,465	1,152	431	13,990	327	103.1	78.6	436	178.7	139.9
Georgia.....	8,952	1,105	407	19,860	466	137.2	109.9	1,036	352.1	269.6
Hawaii.....	508	48	-	659	6	9.5	6.4	15	36.5	25.6
Idaho.....	3,336	609	275	5,552	157	32.4	26.4	304	80.3	65.7
Illinois.....	11,049	1,632	799	14,409	881	413.1	321.4	619	416.9	329.2
Indiana.....	5,977	1,116	500	18,577	234	98.7	78.4	237	258.2	195.1
Iowa.....	10,100	709	332	33,438	546	25.4	15.0	1,109	144.3	108.2
Kansas.....	7,824	798	529	24,141	815	62.3	44.4	1,125	107.9	74.8
Kentucky.....	4,582	733	271	15,199	205	63.1	45.1	202	186.9	142.6
Louisiana.....	3,310	671	153	8,869	261	89.3	66.7	459	451.7	374.7
Maine.....	1,965	312	167	2,507	91	32.7	24.9	166	45.0	33.5
Maryland.....	2,444	355	238	7,631	99	69.8	53.3	272	143.3	112.0
Massachusetts.....	2,330	447	232	2,264	69	87.3	70.7	140	281.8	219.7
Michigan.....	7,066	1,082	789	26,495	756	147.6	103.2	1,088	379.2	292.4
Minnesota.....	8,512	905	242	30,800	1,043	96.7	69.9	1,310	385.5	315.4
Mississippi.....	5,872	678	256	16,448	593	73.1	54.1	904	162.1	124.6
Missouri.....	8,889	1,109	584	23,163	292	95.0	66.8	508	358.4	279.4
Montana.....	6,453	1,177	386	5,654	415	73.4	59.0	511	141.3	116.1
Nebraska.....	5,908	478	206	17,792	579	43.4	28.6	793	83.7	60.3
Nevada.....	2,214	535	232	3,290	191	36.8	34.2	152	80.9	75.9
New Hampshire.....	1,267	214	133	1,688	66	33.2	24.9	52	34.2	25.4
New Jersey.....	2,164	373	148	2,211	56	83.8	56.8	110	372.6	284.2
New Mexico.....	4,063	1,003	418	5,698	346	42.4	34.8	423	99.6	84.3
New York.....	12,617	1,235	876	19,360	272	323.6	213.6	533	688.6	500.7
North Carolina.....	4,716	772	376	29,364	198	46.7	28.1	540	198.9	132.3
North Dakota.....	4,616	570	316	13,193	1,153	49.4	33.1	1,100	56.1	40.7
Ohio.....	8,121	1,526	897	19,370	152	117.4	89.1	626	640.8	502.6
Oklahoma.....	8,176	795	469	13,697	522	77.7	52.4	618	119.7	89.2
Oregon.....	4,093	731	580	8,179	248	83.6	65.2	210	192.3	152.0
Pennsylvania.....	8,502	1,585	823	13,437	217	165.8	111.2	446	564.9	437.9
Rhode Island.....	439	71	26	526	22	29.6	22.5	27	91.2	65.3
South Carolina.....	5,274	679	340	19,605	550	59.5	46.7	1,354	103.0	75.2
South Dakota.....	6,047	679	312	12,820	865	63.3	47.6	738	54.8	38.7
Tennessee.....	6,731	1,049	318	11,524	562	111.0	86.7	781	364.7	289.8
Texas.....	17,465	3,025	1,423	37,230	1,540	248.3	181.2	1,528	446.4	353.2
Utah.....	2,362	935	151	3,847	151	30.5	27.5	188	121.6	111.3
Vermont.....	1,653	321	87	1,880	44	20.6	16.7	128	63.6	51.2
Virginia.....	5,666	1,054	404	18,746	427	187.3	156.1	570	441.2	364.3
Washington.....	3,955	725	336	11,807	329	85.6	66.1	320	223.7	177.0
West Virginia.....	2,897	510	157	10,801	39	27.4	19.4	213	278.5	213.9
Wisconsin.....	6,371	459	308	19,139	389	76.5	51.1	388	112.0	79.5
Wyoming.....	3,898	917	442	2,490	342	43.9	38.0	280	80.7	68.3
Puerto Rico.....	537	-	-	1,125	12	11.9	5.9	62	39.0	18.4

- Represents zero.

¹ Full authorization 41,000 miles. The 70 miles difference between full authorization and miles reported includes routes for which final locations not yet determined.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Progress, 1965*.

No. 811. DISBURSEMENTS OF STATE HIGHWAY FUNDS—STATES: 1930 TO 1964

[In millions of dollars. Comprises disbursements, whether from current revenues or proceeds of loans, for construction, maintenance, interest and principal payments on highway bonds, transfers to local units, and miscellaneous disbursements. Includes transactions by State toll authorities. Beginning 1940, covers calendar years; figures for 1930 for many States represent fiscal years]

STATE	1930	1940	1945	1950	1955	1960	1962	1963	1964
United States ¹	1,331	1,678	1,302	3,562	6,034	8,957	10,451	11,248	12,018
Alabama.....	20	28	26	49	87	174	149	162	214
Alaska.....	(NA)	(NA)	(NA)	(NA)	(NA)	19	34	49	70
Arizona.....	6	9	6	20	33	72	93	95	101
Arkansas.....	40	18	15	46	55	95	108	128	110
California.....	56	99	138	268	558	786	1,010	1,047	1,242
Colorado.....	11	15	12	38	56	91	96	108	128
Connecticut.....	16	23	15	38	79	161	184	207	212
Delaware.....	8	4	3	32	26	36	51	68	83
Dist. of Columbia.....	2	7	4	11	24	48	59	53	59
Florida.....	20	39	36	93	152	316	375	374	406
Georgia.....	17	39	24	74	109	167	238	239	217
Hawaii.....	(NA)	(NA)	(NA)	(NA)	(NA)	23	27	25	31
Idaho.....	8	8	6	19	27	44	56	54	57
Illinois.....	53	71	53	113	229	475	448	476	571
Indiana.....	27	40	35	69	200	241	235	253	300
Iowa.....	57	33	23	79	109	169	157	189	199
Kansas.....	17	21	16	50	110	109	110	124	141
Kentucky.....	20	26	20	67	102	138	249	280	225
Louisiana.....	30	30	22	71	115	204	215	257	257
Maine.....	18	14	10	24	65	62	67	72	73
Maryland.....	20	27	19	84	138	166	218	228	231
Massachusetts.....	24	38	21	98	203	237	270	283	357
Michigan.....	48	67	50	106	249	418	463	441	411
Minnesota.....	39	31	23	65	101	167	162	185	223
Mississippi.....	11	31	23	42	75	110	117	139	146
Missouri.....	44	28	21	53	105	165	192	234	254
Montana.....	8	12	7	22	30	54	65	81	86
Nebraska.....	16	20	16	36	59	95	99	106	106
Nevada.....	3	4	2	9	15	22	35	45	65
New Hampshire.....	10	8	7	14	30	50	48	51	51
New Jersey.....	49	53	46	188	303	221	338	388	416
New Mexico.....	10	13	8	26	39	64	66	82	82
New York.....	109	199	114	304	471	652	820	793	784
North Carolina.....	26	40	29	136	141	179	210	202	205
North Dakota.....	6	7	6	22	28	50	42	60	65
Ohio.....	68	93	76	147	383	523	600	600	603
Oklahoma.....	27	24	24	73	113	134	165	204	200
Oregon.....	19	18	14	50	79	113	139	161	179
Pennsylvania.....	104	128	73	279	350	423	557	555	625
Rhode Island.....	4	8	6	14	30	42	45	55	64
South Carolina.....	23	23	22	46	57	109	95	101	105
South Dakota.....	8	9	6	20	34	57	60	75	90
Tennessee.....	56	34	32	79	108	187	211	244	259
Texas.....	65	80	67	178	282	493	510	563	601
Utah.....	5	6	6	15	23	49	63	71	89
Vermont.....	9	8	4	10	17	43	50	47	47
Virginia.....	23	28	29	76	112	211	287	334	335
Washington.....	16	40	29	78	127	171	220	282	248
West Virginia.....	24	26	27	51	64	110	99	109	136
Wisconsin.....	27	41	28	68	109	171	192	212	188
Wyoming.....	4	6	3	14	22	44	54	57	71

NA. Not available.

¹ Prior to 1930, excludes Alaska and Hawaii.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 812. STATE HIGHWAY FUNDS AVAILABLE, BY SOURCE, AND DISBURSEMENTS BY PURPOSE—STATES: 1964

[In millions of dollars. Comprises receipts and disbursements of all State imposts on highway users, all other funds available to State highway departments, and State funds other than those of highway departments, which were reported as being applied to highway purposes. Includes transactions of interstate and intrastate toll authorities that are operated by State or quasi-State agencies. See also *Historical Statistics, Colonial Times to 1867*, series Q 266-278]

STATE	FUNDS AVAILABLE					DISBURSEMENTS				
	Total	Motor-vehicle fees, motor-fuel and motor-carrier taxes	Federal funds	Income from issue of bonds	All other sources ¹	Total ²	For State-administered highways ³			For county and local roads and streets ⁴
							Capital outlay, roads and bridges ⁴	Maintenance and traffic services ⁴	Other ⁵	
United States.....	15,268	6,583	4,001	784	3,900	12,018	6,362	1,210	1,565	1,944
Alabama.....	235	101	81	25	28	214	106	23	25	55
Alaska.....	89	8	51	-	30	70	55	10	5	(Z)
Arizona.....	114	55	52	-	7	101	59	8	10	20
Arkansas.....	140	69	45	-	26	110	58	17	16	16
California.....	1,428	842	348	-	238	1,242	624	56	114	262
Colorado.....	163	67	58	-	38	128	73	10	15	23
Connecticut.....	308	85	63	50	110	212	127	23	46	10
Delaware.....	195	19	10	127	39	83	45	9	27	1
Dist. of Columbia.....	60	21	28	1	10	59	(X)	(X)	(X)	52
Florida.....	757	250	88	179	240	406	213	27	55	15
Georgia.....	339	128	83	-	128	217	109	16	19	43
Hawaii.....	42	15	11	7	9	31	16	3	5	7
Idaho.....	63	29	28	-	6	57	32	7	6	12
Illinois.....	740	287	248	-	205	571	285	48	50	168
Indiana.....	359	164	92	-	103	300	133	49	36	74
Iowa.....	232	123	64	-	45	199	94	16	9	76
Kansas.....	185	76	55	19	35	141	77	22	18	19
Kentucky.....	378	103	68	119	88	225	144	31	38	8
Louisiana.....	347	96	106	-	145	257	163	21	40	30
Maine.....	101	38	20	-	43	73	38	15	16	3
Maryland.....	294	122	51	20	101	231	103	14	54	53
Massachusetts.....	481	115	78	102	186	357	196	39	90	21
Michigan.....	558	261	138	-	159	411	159	29	83	133
Minnesota.....	325	131	99	-	95	223	132	21	14	50
Mississippi.....	172	70	53	15	34	146	70	11	17	45
Missouri.....	297	138	111	-	48	254	179	37	17	17
Montana.....	96	29	58	-	9	86	67	8	5	4
Nebraska.....	99	53	40	-	1	106	58	10	5	31
Nevada.....	73	21	47	-	5	65	50	5	6	3
New Hampshire.....	52	24	17	-	11	51	27	11	11	2
New Jersey.....	551	226	49	31	245	416	124	41	105	21
New Mexico.....	88	43	35	2	8	82	53	13	7	5
New York.....	1,004	418	188	28	370	784	377	92	120	88
North Carolina.....	281	172	48	-	61	205	100	57	33	8
North Dakota.....	71	28	33	-	10	65	42	5	3	14
Ohio.....	717	358	178	-	181	603	304	41	99	148
Oklahoma.....	263	116	54	-	93	200	97	17	19	46
Oregon.....	219	80	88	-	51	179	103	14	20	35
Pennsylvania.....	765	344	158	25	238	625	343	91	107	55
Rhode Island.....	86	30	20	9	27	64	47	6	9	1
South Carolina.....	145	74	33	(Z)	38	105	60	19	13	8
South Dakota.....	94	31	54	-	9	90	64	5	6	15
Tennessee.....	276	138	115	14	9	259	146	15	15	65
Texas.....	704	409	200	-	95	601	355	72	32	37
Utah.....	95	32	54	-	9	89	68	8	6	5
Vermont.....	42	21	20	3	-2	47	26	7	7	7
Virginia.....	421	152	152	-	117	335	218	44	43	18
Washington.....	285	146	77	3	59	248	114	23	29	45
West Virginia.....	139	68	48	5	18	136	95	20	19	-
Wisconsin.....	210	134	53	-	23	188	81	19	12	62
Wyoming.....	90	18	53	-	19	71	53	5	4	8

- Represents zero. X Not applicable. Z Less than \$500,000.

¹ Balances from 1963, totaling \$2,904 million, and miscellaneous current revenues, totaling \$384 million.

² Includes disbursements of \$273 million for collection and administration of highway-user revenues, and of \$664 million for nonhighway purposes. ³ Expenditures on county roads under State control in Ala. (8 counties), Del., N.C., Va. (all except 2 counties), and W. Va. included with those for State-administered highways.

⁴ Includes some administration, engineering, and miscellaneous disbursements. ⁵ Disbursements for administration, engineering, and miscellaneous; State highway police and safety; bond interest; and bond retirement.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1964*.

No. 813. FEDERAL AND STATE MOTOR-FUEL TAX—STATES: 1940 TO 1965
[Cents per gallon. Where 2 figures appear in a cell, the former is tax in effect at beginning of year, the latter is tax at end of year. See also *Historical Statistics, Colonial Times to 1967*, series Q 323-325]

STATE	1940	1950	1960	1964	1965 ¹	STATE	1940	1950	1960	1964	1965 ¹
Federal tax.....	1-1.5	1.5	4	4	4	Mississippi.....	6	6-7	4 7	4 7	4 7
State average ²	3.96	4.65	5.94	6.31	6.41	Missouri.....	2	2	3	5	5
Alabama.....	6	6	7	7	7	Montana.....	5	6	4 6	4 6	4 6
Alaska.....	(3)	(3)	5-7	8	8	Nebraska.....	5	6-5	7	7	7-7.5
Arizona.....	5	5	5	6	6-7	Nevada.....	4	4.5	6	6	4 6
Arkansas.....	6.5	6.5	6.5	6.5	4 6.5-7.5	New Hampshire.....	4	4	7	7	7
California.....	3	4.5	4 6	7	7-8-7	New Jersey.....	3	3	5	6	6
Colorado.....	4	6	6	6	6-7	New Mexico.....	5	7	6	6	6
Connecticut.....	3	4	6	6	6	New York.....	4	4	4 6	4 6	4 6
Delaware.....	4	5	5	6	6-7	North Carolina.....	6	7	7	7	7
Dist. of Col.....	2	4	6	6	6	North Dakota.....	4	4	6	6	6
Florida.....	7	7	7	7	7	Ohio.....	4	4	7	7	7
Georgia.....	6	7	6.5	6.5	6.5	Oklahoma.....	4	6.5	6.5	6.5	6.5
Hawaii.....	4	4	4 5	4 5	4 5	Oregon.....	5	6	6	6	6
Idaho.....	5.1	6	6	6	6	Pennsylvania.....	4	5	5	7	7
Illinois.....	3	3	5	5	5	Rhode Island.....	3	4	6-7	7	7
Indiana.....	4	4	6	6	6	South Carolina.....	6	6-7	7	7	7
Iowa.....	3	4	4 6	4 6	4 6-7	South Dakota.....	4	4	4 6	4 6	4 6
Kansas.....	3	5	4 5	4 5	4 5	Tennessee.....	7	7	7	7	7
Kentucky.....	5	7	6 7	6 7	6 7	Texas.....	4	4	4 5	4 5	4 5
Louisiana.....	7	9	7	7	7	Utah.....	4	4	6	6	6
Maine.....	4	6	7	7	7	Vermont.....	4	5	4 6.5	4 6.5	4 6.5
Maryland.....	4	5	6	6-7	7	Virginia.....	5	6	6-7	6 7	6 7
Massachusetts.....	3	3	5.5	5.5	5.5-6.5	Washington.....	5	6.5	6.5	7.5	7.5
Michigan.....	3	3	6	6	6	West Virginia.....	5	5	7	7	7
Minnesota.....	4-3	5	5	6	6	Wisconsin.....	4	4	6	6	6
						Wyoming.....	4	4	4 5	4 5	4 5

¹ In effect Dec. 31.

² Weighted average, based on net gallons taxed. Prior to 1960, excludes Alaska and Hawaii.

³ No tax.

⁴ Tax on diesel fuel, and usually other special fuels for highway vehicles, is higher than gasoline tax shown.

⁵ State tax rate in Hawaii is 8 cents per gallon in Hawaii County and 5 cents per gallon in other counties; Nevada 7 cents per gallon in Clark and Washoe Counties and 6 cents per gallon in other counties.

⁶ Trucks or combinations with more than 2 axles pay motor-fuel tax rates of 9 cents per gallon in Kentucky and Virginia. (Prior to July 1, 1960, the tax in Virginia was 8 cents.)

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 814. PUBLIC HIGHWAY DEBT—LONG-TERM HIGHWAY OBLIGATIONS OF STATE AND LOCAL GOVERNMENTS: 1950 TO 1966

[In millions of dollars. State data are for calendar years; local data are for varying fiscal years. Prior to 1960, excludes Alaska and Hawaii. Excludes duplicated and interunit obligations except as noted. Municipal obligations include data for all municipalities and other political subdivisions urban in character. See *Historical Statistics, Colonial Times to 1967*, series Q 279, for State obligations outstanding]

ITEM	1950	1955	1960	1961	1962	1963	1964	1965 (prel.)	1966 est.
Total debt issued¹	652	1,174	1,206	1,272	1,535	981	1,159	1,170	1,413
State obligations.....	400	646	680	718	1,017	458	634	640	873
County and local rural obligations.....	90	205	190	153	184	114	114	115	118
Municipal obligations.....	162	323	336	401	334	409	411	415	422
Total debt redeemed²	322	421	616	665	679	732	741	771	793
State obligations.....	143	191	300	330	340	382	381	401	413
County and local rural obligations.....	83	89	96	117	110	114	117	122	127
Municipal obligations.....	96	141	220	218	229	236	243	248	253
Total debt outstanding	4,436	9,658	13,166	13,718	14,537	14,773	15,191	15,590	16,210
State obligations.....	2,096	6,619	9,384	9,772	10,449	10,525	10,778	11,017	11,477
County and local rural obligations.....	872	1,027	1,280	1,252	1,285	1,281	1,278	1,271	1,262
Municipal obligations.....	1,468	2,012	2,502	2,694	2,803	2,967	3,135	3,302	3,471

¹ Excludes refunding issues.

² Excludes redemptions by refunding.

Source: Dept. of Commerce, Bureau of Public Roads; releases.

No. 815. MOTOR-VEHICLE TRAVEL, BY TYPE OF VEHICLE: 1940 TO 1964

[In millions of vehicle-miles, except averages. Prior to 1960, estimates for total United States travel based on automatic traffic recorder data from 48 States and District of Columbia. Urban travel includes all travel in municipalities and most travel in urbanized areas. All other travel is classed as rural. See also *Historical Statistics, Colonial Times to 1967*, series Q 321-327]

ITEM	1940	1950	1955	1960	1961	1962	1963	1964
Total travel	302,188	458,246	603,434	718,845	737,535	766,852	801,055	841,909
TYPE OF VEHICLE								
Passenger vehicles.....	252,257	367,694	492,047	592,436	608,953	633,563	659,182	691,751
Rural.....	121,988	183,218	265,667	305,538	314,762	314,626	327,406	344,209
Urban.....	130,269	184,476	226,380	286,898	294,191	318,937	331,776	347,542
Passenger cars ¹	249,600	363,613	487,540	588,083	604,557	629,097	654,699	687,135
Rural.....	120,540	181,095	263,088	303,283	312,437	312,272	325,009	341,703
Urban.....	129,060	182,518	224,452	284,800	292,120	316,825	329,690	345,432
Buses.....	2,657	4,081	4,507	4,353	4,396	4,466	4,483	4,616
Rural.....	1,448	2,123	2,579	2,255	2,325	2,354	2,397	2,506
Urban.....	1,209	1,958	1,928	2,098	2,071	2,112	2,086	2,110
Trucks and combinations.....	49,931	90,552	111,387	126,409	128,582	133,289	141,873	150,158
Rural.....	30,207	56,780	70,486	81,722	83,140	84,137	89,064	93,596
Urban.....	19,724	33,772	40,901	44,687	45,442	49,152	52,809	56,562
AVERAGE MILES PER VEHICLE								
Passenger vehicles.....	9,129	9,078	9,400	9,474	9,492	9,467	9,402	9,445
Passenger cars ¹	9,080	9,020	9,359	9,446	9,465	9,441	9,378	9,421
Buses.....	18,580	20,910	17,658	16,004	15,661	15,597	15,049	15,110
Trucks and combinations.....	10,626	10,776	10,697	10,583	10,461	10,406	10,569	10,694

¹ Includes taxicabs and motorcycles.

Source: Dept. of Commerce, Bureau of Public Roads; releases.

No. 816. MOTOR FUEL CONSUMPTION, BY USE: 1940 TO 1964

[In millions of gallons, except averages. Prior to 1960, excludes Alaska and Hawaii. Comprises gasoline and all other fuels under State motor fuel laws. Excludes exports and Federal purchases for military use. Obtained chiefly from reports of State authorities. See *Historical Statistics, Colonial Times to 1967*, series Q 318-320, for highway and nonhighway usage]

ITEM	1940	1945	1950	1955	1960	1961	1962	1963	1964
Total consumption ¹	24,404	22,304	40,280	53,116	63,714	65,048	66,637	69,311	72,097
Passenger vehicles.....	16,759	14,023	25,037	34,319	41,996	42,863	44,608	46,383	48,784
Passenger cars ²	16,323	13,323	24,305	33,548	41,169	42,033	43,771	45,545	47,924
Buses ³	436	700	732	771	827	830	837	838	860
Trucks and combinations.....	5,156	5,055	10,566	13,308	15,882	16,443	17,089	18,133	19,117
Average gallons consumed per vehicle									
Passenger vehicles.....	678	617	728	759	777	776	774	760	778
Passenger cars ²	594	517	603	644	661	658	657	652	657
Buses ³	3,049	4,294	3,752	3,021	3,040	2,967	2,906	2,813	2,815
Trucks and combinations.....	1,097	1,020	1,257	1,278	1,330	1,338	1,334	1,351	1,362
Average mileage per gallon, per vehicle									
Passenger vehicles.....	13.79	13.12	12.87	12.67	12.42	12.44	12.43	12.42	12.40
Passenger cars ²	15.29	15.03	14.95	14.53	14.28	14.38	14.37	14.37	14.34
Buses ³	6.09	5.48	5.57	5.85	5.26	5.30	5.34	5.35	5.37
Trucks and combinations.....	9.69	9.09	8.57	8.37	7.96	7.82	7.80	7.82	7.85

¹ Includes losses allowed for evaporation, handling, etc.

² Includes taxicabs and motorcycles. ³ Includes school buses.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

No. 817. SPEED OF MOTOR VEHICLES: 1945 TO 1964

[Excludes Alaska and Hawaii. Based on actual speed of each vehicle recorded on tangent sections of main rural highways during off-peak hours]

ITEM	1945 ¹	1950	1955	1957	1958	1959	1960	1961	1962	1963	1964
Number of vehicles recorded.....1,000..	96	280	395	344	515	396	459	574	602	539	359
Average speed, all vehicles.....m.p.h.	44.0	47.6	50.7	51.4	51.7	52.0	52.6	52.6	53.8	55.8	55.6
Passenger cars.....m.p.h.	45.0	48.7	52.1	52.6	52.8	53.3	53.8	53.7	55.1	57.1	56.9
Trucks.....m.p.h.	39.8	43.0	45.8	47.0	47.3	47.3	48.2	48.2	49.4	51.3	50.9
Buses.....m.p.h.	45.5	49.8	52.6	52.6	53.6	53.5	55.5	55.3	56.0	58.1	57.3
Vehicles exceeding—											
40 m.p.h.....percent.....	64	77	87	89	90	90	92	92	93	95	94
45 m.p.h.....percent.....	42	58	73	75	77	77	80	80	84	88	86
50 m.p.h.....percent.....	24	37	51	52	55	56	58	60	64	72	70
55 m.p.h.....percent.....	11	20	31	33	33	36	37	38	43	52	52
60 m.p.h.....percent.....	5	8	15	15	15	16	16	18	21	29	30

¹ Aug. 15 to Dec. 31.

Source: Dept. of Commerce, Bureau of Public Roads; unpublished data.

No. 818. MOTOR-VEHICLE OPERATORS AND CHAUFFEURS LICENSES—STATES: 1964

[In thousands. Incomplete data for some States]

STATE	Licenses in force ¹	LICENSES ISSUED		STATE	Licenses in force ¹	LICENSES ISSUED	
		Operators	Chauffeurs ²			Operators	Chauffeurs ²
United States.....	95,468	36,643	3,605	Missouri.....	2,340	724	202
Alabama.....	1,583	776	(X)	Montana.....	381	178	31
Alaska.....	112	49	³ (Z)	Nebraska.....	894	⁴ 147	(X)
Arizona.....	907	269	44	Nevada.....	227	84	13
Arkansas.....	918	881	38	New Hampshire.....	370	201	55
California.....	9,517	⁴ 2,725	45	New Jersey.....	⁵ 3,290	⁴ 2,150	⁷ 20
Colorado.....	1,093	321	64	New Mexico.....	537	197	60
Connecticut.....	⁵ 1,666	888	9	New York.....	7,436	1,984	530
Delaware.....	259	96	21	North Carolina.....	2,264	555	46
District of Columbia.....	350	118	(X)	North Dakota.....	381	192	(X)
Florida.....	2,976	1,348	178	Ohio.....	5,295	988	95
Georgia.....	2,033	991	103	Oklahoma.....	1,366	601	⁶ 83
Hawaii.....	⁵ 337	55	4	Oregon.....	⁵ 1,081	⁴ 540	29
Idaho.....	413	180	20	Pennsylvania.....	5,659	2,296	(X)
Illinois.....	5,442	⁴ 1,494	314	Rhode Island.....	457	227	14
Indiana.....	2,543	1,426	⁶ 232	South Carolina.....	⁵ 1,217	80	⁸ 7
Iowa.....	1,499	⁴ 666	158	South Dakota.....	402	127	(X)
Kansas.....	1,361	640	60	Tennessee.....	1,786	120	⁶ 8
Kentucky.....	⁵ 1,472	669	17	Texas.....	5,152	⁶ 3,033	155
Louisiana.....	1,464	647	151	Utah.....	567	111	5
Maine.....	464	435	(X)	Vermont.....	199	109	(X)
Maryland.....	⁵ 1,567	816	⁶ 62	Virginia.....	2,077	623	(X)
Massachusetts.....	⁵ 2,550	1,289	⁸ 2	Washington.....	1,603	⁴ 802	(X)
Michigan.....	⁵ 4,025	1,210	238	West Virginia.....	884	274	44
Minnesota.....	⁵ 1,898	635	⁵ 224	Wisconsin.....	2,079	1,009	⁷ 74
Mississippi.....	853	522	45	Wyoming.....	225	57	15

X Not applicable. Z Less than 500.

¹ Estimated from data reported by States for current and previous years; no allowance made for deaths, emigration, or revocation. ² Includes public service and other special licenses issued to operators of vehicles for hire.³ Special licenses to operate school buses. Minnesota includes 10,862, and Wisconsin 5,404 school bus licenses which are also valid chauffeurs' licenses.⁴ Licenses having major restrictions which do not permit them to be included with regular operators' licenses are as follows: California, 85 junior permits; Illinois, 4,256 hardship permits; Iowa, 615 school licenses; Nebraska, 2,157 school permits; New Jersey, 447 farm vehicle driver licenses; Oregon, 7 student permits; Washington, 264 agricultural and 1,391 occupational licenses.⁵ Chauffeurs' licenses not added to operators' licenses since an operator's license is required in addition to the chauffeur's license.⁶ Includes special commercial licenses as follows: Public passenger in Indiana, 19,965; special chauffeur in Maryland, 1,769; commercial chauffeur in Oklahoma, 44,897; special chauffeur in Tennessee, 4,080; and commercial operators in Texas, 869,154.⁷ Special bus drivers' licenses. ⁸ A permit to operate "For hire" vehicles is required.Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*, 1964.

No. 819. MOTOR VEHICLES—FACTORY SALES AND REGISTRATIONS: 1900 TO 1965

[Prior to 1960, registrations exclude Alaska and Hawaii, except as noted. See also *Historical Statistics, Colonial Times to 1967*, series Q 310-317]

YEAR	FACTORY SALES ¹								REGISTRATIONS ⁵ (1,000)		
	Number (1,000)			Wholesale value ⁶ (mil. dol.)				Total	Passenger cars and taxis ⁶	Trucks and buses ⁶	
	Total	Pas- senger cars	Trucks and buses ²	Total	Passenger cars		Trucks and buses ²				
					Total	Average ⁴	Total				Average ⁴
1900.....	4	4	—	5	5	1,250	—	8	—	—	
1910.....	187	181	6	225	215	1,188	10	1,667	458	10	
1920.....	2,227	1,906	322	2,232	1,809	949	423	7 9,251	8,131	1,108	
1930.....	3,363	2,787	575	2,035	1,644	590	391	7 26,794	23,035	3,715	
1940.....	4,472	3,717	755	2,938	2,371	638	568	732,525	27,466	4,987	
1945.....	725	70	656	1,239	57	814	1,182	1,802	53,106	5,242	
1950.....	8,003	6,666	1,337	10,176	8,468	1,270	1,708	1,277	49,300	8,828	
1955.....	9,169	7,920	1,249	14,474	12,453	1,572	2,021	1,618	62,875	10,546	
1960.....	7,869	6,675	1,194	14,515	12,164	1,822	2,351	1,969	73,877	12,190	
1962.....	8,173	6,933	1,240	15,653	13,072	1,886	2,582	2,082	79,179	13,068	
1963.....	9,100	7,638	1,463	17,517	14,427	1,889	3,090	2,112	82,722	13,663	
1964.....	9,292	7,752	1,540	18,061	14,837	1,914	3,224	2,094	86,309	14,325	
1965.....	11,058	9,306	1,752	22,300	18,400	1,977	3,900	2,226	90,357	15,105	

— Represents zero. ¹ Includes military vehicles.² A substantial part of the trucks and buses reported comprises chassis without body; hence, excludes the value of bodies for these chassis. ³ Beginning 1940, includes value of standard equipment.⁴ Averages do not indicate price changes since total values may reflect changes in number of makes, models, and/or body types from year to year. ⁵ Includes publicly owned vehicles.⁶ Prior to 1930, buses included with passenger cars. ⁷ Includes Hawaii; not shown in detail.Source: Factory sales—Automobile Manufacturers Association, Detroit, Mich.; *Automobile Facts and Figures*. Registrations—Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*, and unpublished data.

No. 820. MOTOR VEHICLES—SUMMARY STATISTICS: 1950 TO 1965

[Number in thousands; money figures in millions of dollars. Excludes Alaska and Hawaii, except as noted]

ITEM	1950	1955	1960	1962	1963	1964	1965
SALES, EXPORTS, IMPORTS, AND SCRAPPAGE ¹							
Passenger car factory sales.....	6,666	7,920	6,675	6,933	7,638	7,752	9,306
4-door sedans.....	3,247	3,044	2,697	2,611	2,727	2,511	2,744
2-door sedans, coaches and coupes ²	2,794	1,691	1,094	1,124	1,025	907	793
2-door and 4-door "hard-tops".....	267	2,169	1,517	1,813	2,430	2,954	4,251
Convertibles (except "hard-top").....	208	240	305	438	490	490	509
Station wagons ³	142	759	1,059	944	960	884	1,001
Chassis.....	9	18	3	4	6	6	7
Truck and bus factory sales.....	1,337	1,249	1,194	1,240	1,463	1,540	1,752
Passenger cars (new), exported.....	153	254	145	180	194	198	205
Passenger cars (new), imported.....	21	57	444	375	409	537	559
Exports, value.....	794	1,367	1,411	1,401	1,567	1,900	(NA)
Passenger cars (new).....	179	380	235	245	267	347	(NA)
Trucks and buses (new).....	217	340	382	254	282	347	(NA)
Rubber tires and tubes.....	47	82	77	47	59	70	(NA)
Parts and accessories (incl. used vehicles).....	350	565	717	855	960	1,136	(NA)
Imports of new passenger cars, value.....	21	69	513	422	445	579	640
Vehicles scrapped ⁴	3,234	4,392	4,784	5,416	5,946	⁵ 6,550	(NA)
Passenger cars ⁴	2,593	3,773	4,203	4,769	5,177	⁵ 5,750	(NA)
Trucks and buses ⁴	636	619	581	647	769	⁵ 800	(NA)
AUTOMOTIVE PARTS AND CHEMICAL SHIPMENTS							
Tires, passenger car, ⁷ total.....	84,423	93,730	105,687	116,830	121,890	132,139	⁶ 148,582
Original equipment.....	36,678	42,574	36,278	37,461	41,893	42,512	⁶ 51,438
Replacement.....	47,103	50,189	68,475	75,430	79,035	88,163	⁶ 94,948
Export.....	642	966	934	939	962	1,463	⁶ 2,916
Tires, truck and bus, ⁷ total.....	15,164	14,769	13,911	15,754	16,592	18,262	20,478
Original equipment.....	4,671	4,800	3,925	4,521	5,220	6,507	8,343
Replacement.....	9,705	9,057	9,210	10,623	10,790	12,146	12,957
Export.....	788	912	776	610	582	609	679
Replacement automobile batteries ⁸	24,442	25,828	26,329	30,486	31,840	29,302	⁶ 29,700
Sealed-beam lamps ⁹	35,776	44,911	67,416	72,579	75,343	74,437	85,566
Other automotive lamps ⁹	251,216	331,448	323,449	364,075	405,635	435,636	522,808
Antifreeze ¹⁰ 1,000 gal.....	(NA)	110,000	120,902	128,723	135,860	132,550	143,067
Other cooling system chemicals ¹⁰	(NA)	(NA)	32,437	30,858	27,941	28,465	25,418
Heavy duty brake fluid ¹⁰ 1,000 gal ¹¹	(NA)	5,682	9,425	8,860	8,703	8,471	7,983
SPECIAL MOTOR-VEHICLE TAXES ¹²							
Total.....	4,339	7,212	10,445	11,355	12,180	13,044	(NA)
Federal excise ¹⁴	1,479	2,736	4,597	4,769	5,246	5,635	5,915
State gross registration receipts ¹⁵	948	1,483	1,924	2,060	2,189	2,364	2,505
State gasoline, net ¹⁵	1,667	2,543	3,396	3,762	3,962	4,217	4,455
Special city and county ¹⁶	87	159	203	185	188	191	(NA)
Bridge, tunnel, ferry, road tolls ¹⁶	157	292	524	579	596	637	(NA)
MOTOR VEHICLE REGISTRATIONS ¹⁷							
World.....	70,440	96,001	126,966	146,171	155,053	166,085	(NA)
United States.....	49,177	62,794	73,928	79,023	82,748	86,297	(NA)
Other North and Central America.....	3,154	4,942	6,759	7,410	7,843	8,200	(NA)
South America.....	1,270	1,835	2,995	3,752	4,123	4,536	(NA)
Europe.....	12,529	19,611	33,751	43,781	46,433	51,255	(NA)
Africa.....	1,241	1,829	2,450	2,889	3,030	3,156	(NA)
Asia.....	1,221	2,212	3,556	5,385	6,676	8,314	(NA)
Oceania.....	1,848	2,778	3,528	3,931	4,200	4,327	(NA)

NA Not available.

¹ Source: Exports and imports from Dept. of Commerce.² Includes business coupes.³ Excludes station wagons on commercial vehicle chassis.⁴ Estimated.⁵ Includes Alaska and Hawaii.⁶ Preliminary. ⁷ Source: The Rubber Manufacturers Association, Inc., 1965 figures for "Tires, passenger car" include motorcycle tires.⁸ Source: Association of American Battery Manufacturers.⁹ Source: Bureau of the Census.¹⁰ Source: Chemical Specialties Manufacturers Association, Inc.¹¹ Individual consumer size (1-treatment) packages.¹² Figures represent fluid compounded rather than sold.¹³ Special taxes on motor-vehicle users. Excludes income and property taxes on motor vehicle, body, parts and tire factories; garages; dealers; repair shops; terminal and truck, including taxicab and bus, operating companies.¹⁴ Source: Dept. of the Treasury and Dept. of Commerce. Includes amounts collected on use of vehicles over 26,000 pounds as follows: 1960, \$44,539,000; 1962, \$89,477,000; 1963, \$106,443,000; 1964, \$100,996,000; 1965, not available.¹⁵ Source: Dept. of Commerce.¹⁶ Estimated from data compiled by Dept. of Commerce. "Special city and county" includes parking meter revenues.¹⁷ Includes cars, trucks, and buses. Source: Dept. of State and overseas sources.Source: Automobile Manufacturers Association, Detroit, Mich.; *Automobile Facts and Figures*. Includes data compiled from sources cited in footnotes.

No. 821. MOTOR-VEHICLE REGISTRATIONS—STATES: 1930 TO 1965

[In thousands. Includes publicly owned vehicles. For uniformity, figures have been adjusted to a calendar-year basis as registration years in States differ. Figures represent net numbers where possible, excluding re-registrations and nonresident registrations]

STATE	AUTOMOBILES, TRUCKS, AND BUSES									Motor-cycles (incl. official), ¹ 1955
	1930	1940	1950	1955	1960	1965				
						Total	Private and commercial		Publicly owned vehicles, Federal, State, county, etc. ¹	
							Auto-mob-iles (incl. taxi-cabs)	Trucks and buses		
United States ²	26, 794	32, 525	49, 300	62, 875	73, 877	90, 357	74, 904	14, 188	1, 264. 3	1, 380. 7
Alabama.....	281	346	686	1, 041	1, 282	1, 663	1, 349	292	23. 2	21. 9
Alaska.....	(NA)	(NA)	(NA)	(NA)	81	109	72	33	4. 0	3. 1
Arizona.....	112	143	271	415	624	825	635	173	18. 2	14. 4
Arkansas.....	221	261	477	584	708	914	643	260	11. 0	9. 5
California.....	2, 060	2, 808	4, 620	6, 189	7, 799	9, 989	8, 371	1, 484	133. 5	268. 2
Colorado.....	311	358	564	737	924	1, 158	878	259	20. 3	21. 5
Connecticut.....	334	498	716	921	1, 107	1, 415	1, 250	151	13. 7	13. 0
Delaware.....	57	73	108	154	192	244	203	38	3. 0	2. 8
District of Columbia.....	159	165	195	197	206	236	200	19	38. 0	2. 0
Florida.....	331	503	985	1, 616	2, 367	3, 037	2, 637	356	42. 9	46. 4
Georgia.....	345	510	898	1, 239	1, 512	1, 990	1, 612	353	25. 5	19. 1
Hawaii.....	44	72	138	181	231	310	271	33	5. 4	9. 8
Idaho.....	120	167	272	338	375	434	297	126	11. 3	16. 0
Illinois.....	1, 646	1, 939	2, 651	3, 268	3, 776	4, 437	3, 886	507	44. 5	56. 4
Indiana.....	880	1, 009	1, 435	1, 763	2, 046	2, 427	1, 969	435	23. 0	43. 5
Iowa.....	783	803	1, 072	1, 195	1, 325	1, 549	1, 234	294	21. 2	25. 8
Kansas.....	598	589	853	1, 048	1, 163	1, 369	995	352	21. 7	21. 9
Kentucky.....	334	470	784	1, 032	1, 198	1, 497	1, 192	289	15. 5	15. 3
Louisiana.....	279	372	707	952	1, 177	1, 442	1, 143	279	20. 5	12. 0
Maine.....	188	209	276	323	374	424	340	79	5. 9	5. 0
Maryland.....	324	449	685	938	1, 155	1, 481	1, 294	173	14. 2	11. 6
Massachusetts.....	851	914	1, 280	1, 546	1, 803	2, 104	1, 873	203	28. 1	30. 8
Michigan.....	1, 338	1, 571	2, 433	3, 114	3, 306	3, 901	3, 485	463	42. 5	65. 7
Minnesota.....	736	879	1, 169	1, 365	1, 592	1, 890	1, 541	324	24. 8	40. 0
Mississippi.....	239	264	484	637	723	921	674	231	16. 0	7. 0
Missouri.....	766	930	1, 261	1, 490	1, 720	2, 085	1, 646	418	21. 1	28. 3
Montana.....	137	196	265	336	381	429	289	132	8. 8	12. 1
Nebraska.....	428	417	569	662	734	859	642	206	11. 1	13. 0
Nevada.....	30	46	77	124	175	266	198	59	8. 9	7. 8
New Hampshire.....	113	137	172	212	267	334	275	51	8. 6	5. 8
New Jersey.....	861	1, 100	1, 579	2, 061	2, 401	2, 980	2, 644	299	36. 0	29. 5
New Mexico.....	85	128	238	340	426	525	388	126	11. 5	9. 3
New York.....	2, 330	2, 775	3, 735	4, 643	5, 067	5, 939	5, 282	566	89. 7	44. 9
North Carolina.....	462	607	1, 056	1, 437	1, 720	2, 156	1, 699	399	57. 4	18. 1
North Dakota.....	184	184	276	309	345	396	260	128	6. 9	5. 8
Ohio.....	1, 773	1, 942	2, 795	3, 526	4, 087	4, 935	4, 392	496	47. 4	71. 4
Oklahoma.....	555	584	831	1, 026	1, 184	1, 438	1, 043	374	21. 2	22. 3
Oregon.....	255	401	689	802	919	1, 119	907	192	20. 4	33. 7
Pennsylvania.....	1, 775	2, 168	3, 010	3, 737	4, 287	4, 968	4, 326	588	54. 1	72. 6
Rhode Island.....	137	189	251	308	341	406	361	42	4. 0	5. 7
South Carolina.....	221	343	579	782	879	1, 094	896	178	19. 9	9. 8
South Dakota.....	206	198	290	325	354	398	279	109	9. 8	7. 4
Tennessee.....	374	461	858	1, 102	1, 307	1, 644	1, 339	280	25. 1	18. 7
Texas.....	1, 378	1, 716	2, 968	3, 869	4, 457	5, 610	4, 393	1, 137	79. 7	60. 4
Utah.....	115	143	247	336	417	525	405	110	10. 3	12. 0
Vermont.....	87	95	121	136	152	175	136	36	2. 8	3. 5
Virginia.....	381	509	918	1, 243	1, 426	1, 800	1, 508	259	32. 4	13. 7
Washington.....	452	573	924	1, 164	1, 377	1, 659	1, 310	316	32. 9	44. 4
West Virginia.....	269	309	482	552	601	696	554	131	11. 5	9. 3
Wisconsin.....	788	913	1, 201	1, 386	1, 600	1, 839	1, 530	279	29. 2	33. 2
Wyoming.....	62	88	145	174	207	225	148	72	5. 7	5. 1

NA. Not available.

¹ Excludes vehicles owned by military services.

² Prior to 1960, excludes Alaska.

³ Includes 3,175 automobiles of the diplomatic corps for 1965.

Source: Dept. of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*, and unpublished data.

**No. 822. MOTOR VEHICLES—ESTABLISHMENTS, PAYROLL, AND EMPLOYMENT FOR
SELECTED KINDS OF BUSINESS: 1958 AND 1963**
[For 1958, Alaska and Hawaii included only in totals]

KIND OF BUSINESS	ESTAB- LISHMENTS ¹ (1,000)		ANNUAL PAYROLL ² (mil. dol.)		PAID EMPLOYEES ³ (1,000)	
	1958	1963	1958	1963	1958	1963
RETAIL TRADE						
Automotive dealers.....	93.9	98.5	3,040	4,111	723.1	794.2
Passenger car dealers, franchised.....	38.6	33.3	2,485	3,326	565.7	612.1
Passenger car dealers, nonfranchised.....	25.3	28.0	154	184	44.2	44.3
Tire, battery, and accessory dealers.....	20.9	25.9	317	474	90.7	110.5
Miscellaneous aircraft, marine, and automotive dealers.....	8.9	11.3	74	127	20.2	27.2
Gasoline service stations.....	206.8	211.5	1,138	1,510	467.7	519.8
WHOLESALE TRADE						
Motor vehicles and automotive equipment.....	23.1	28.9	1,135	1,650	245.1	292.0
Automobiles and other motor vehicles.....	3.9	4.6	391	507	73.5	79.9
Automotive equipment.....	17.1	22.1	619	997	145.6	187.5
Tires and tubes.....	2.1	2.2	125	146	26.0	24.6
SERVICES						
Automobile repairs, services, and garages.....	125.7	139.6	887	1,135	257.1	288.0
Automobile repair shops.....	103.7	114.5	596	778	170.5	184.4
Automobile parking.....	11.0	11.3	106	114	35.4	34.9
Motor vehicle and trailer rentals and lease services.....	4.7	7.4	94	161	20.2	32.7
Other automobile services, except repair.....	5.8	6.5	58	81	29.8	36.0
MANUFACTURING						
Motor vehicles and equipment.....	2.3	2.8	3,318	5,182	581.7	692.1
Motor vehicles and parts.....	1.6	2.0	3,149	4,943	546.0	649.4
Truck and bus bodies.....	0.6	0.6	91	130	20.0	23.8
Truck trailers.....	0.2	0.2	78	110	15.7	18.9

¹ As of Dec. 31; except for manufacturing, represents any establishment employing 1 or more workers at any time during the year.

² Comprises salaries, wages, commissions, bonuses, vacation pay, and other remuneration.

³ During workweek ended nearest Nov. 15, except quarterly average for manufacturing.

Source: Dept. of Commerce, Bureau of the Census; *Census of Business: 1963*, Vols. I, IV, and VI, and *Census of Manufactures: 1963*, Series MC63(F)-3.

**No. 823. AUTOMOBILES—FACTORY INSTALLATION OF SELECTED TYPES OF EQUIP-
MENT: 1956 TO 1965**

[Units in thousands. Refers to model-year production. For certain items, such as air conditioning, a significant number of units are installed on new vehicles after they leave the factory]

EQUIPMENT	1956	1960	1961	1962	1963	1964	1965
Units installed:							
Automatic transmission.....	4,709	4,306	3,937	4,957	5,547	6,120	7,134
Manual transmission.....	1,586	1,706	1,472	1,732	1,794	1,772	1,709
V-8 engine.....	5,122	3,409	2,861	3,714	4,566	5,447	6,492
6-cylinder engine.....	1,173	2,603	2,449	2,807	2,689	2,445	2,350
Power brakes.....	1,529	1,948	1,234	1,717	1,993	2,316	2,856
Power steering.....	1,720	2,357	2,075	2,854	3,498	4,094	5,270
Power windows ¹	412	376	373	652	894	1,024	1,261
Air conditioning.....	164	414	438	757	1,028	1,351	2,061
Tinted windshield.....	1,988	1,668	1,431	2,774	3,380	3,710	4,572
Percent units installed of total cars produced:							
Automatic transmission.....	74.8	71.6	72.8	74.1	75.6	77.5	80.7
Manual transmission.....	25.2	28.4	27.2	25.9	24.4	22.5	19.3
V-8 engine.....	81.4	56.7	52.9	55.6	62.2	69.0	73.4
6-cylinder engine.....	18.6	43.3	45.3	42.0	36.6	31.0	26.6
Power brakes.....	24.3	32.4	22.8	25.7	27.2	29.3	32.3
Power steering.....	27.3	39.2	38.4	42.7	47.7	51.9	59.6
Power windows ¹	6.6	6.3	6.9	9.8	12.2	13.0	14.3
Air conditioning.....	2.6	6.9	8.1	11.3	14.0	17.1	23.3
Tinted windshield.....	31.6	27.7	26.5	41.5	46.1	47.0	51.7

¹ Includes power operated station wagon rear windows.

Source: Chilton Co., Philadelphia, Pa.; annual report, *Automotive Industries Statistical Issue*, (copyright).

No. 824. AUTOMOBILE OWNERSHIP, AGE, AND FINANCING: 1950 TO 1965

[Excludes Alaska and Hawaii. For definition of family unit, see headnote, table 470]

ITEM	1950	1955	1960	1961	1962	1963	1964	1965
Total number of families in U.S.¹millions..	45.2	49.1	53.4	54.2	54.9	56.5	56.8	58.5
Total owning automobiles.....percent.....	59	70	77	76	74	80	78	79
Owning 1 automobile.....percent.....	52	60	62	58	57	58	55	54
Owning 2 or more automobiles.....percent.....	7	10	15	18	17	22	22	24
Automobiles owned, by age: ²								
Less than 2 years old.....percent.....	17	12	14	13	12	13	13	16
2 and 3 years old.....percent.....	19	22	20	17	21	18	20	22
4 to 7 years old.....percent.....	6	43	41	42	38	36	33	33
8 years old and over.....percent.....	58	23	25	28	29	33	34	30
Total automobiles purchased ³millions..		(13.6	14.1	16.4	15.6	18.9	17.3	18.3
New cars.....millions..		4.4	5.2	5.4	4.6	5.9	6.0	7.2
Average price paid.....dollars..	(NA)	2,730	3,140	3,010	2,830	2,990	3,130	3,140
Used cars.....millions..		9.2	9.1	11.0	11.0	13.0	11.3	11.1
Average price paid.....dollars..		780	980	800	800	840	920	920
Method of financing purchases:								
All passenger cars ⁴percent.....	100	100	100	100	100	100	100	100
Full cash (including trade-in allowance).....percent.....	47	38	38	48	44	45	47	48
Installment credit and other borrowing.....percent.....	52	60	62	52	56	55	53	52
New passenger-car buyers ⁴percent.....	100	100	100	100	100	100	100	100
Full cash (including trade-in allowance).....percent.....	54	39	33	39	38	38	39	40
Installment credit and other borrowing.....percent.....	46	60	67	61	62	62	60	60
Used passenger cars ⁴percent.....	100	100	100	100	100	100	100	100
Full cash (including trade-in allowance).....percent.....	41	37	41	52	46	49	51	53
Installment credit and other borrowing.....percent.....	57	60	59	48	54	51	44	44

NA Not available. ¹ At time of survey, early in year.² Age is determined by subtracting model year from year of survey. ³ Covers family units buying cars during preceding calendar year and still owning them at time of survey (January–February of year indicated).⁴ Includes cars received as gifts whether cash or credit purchased; through 1955, also includes buyers for whom method of financing was not ascertained.Source: The University of Michigan, Survey Research Center; *Survey of Consumer Finances*.

No. 825. AUTOMOBILE INSURANCE: 1950 TO 1964

[Money figures in millions of dollars. Prior to 1960, excludes Alaska and Hawaii. 1950, net basis; 1955, direct writing basis; and, beginning 1960, direct premium earned and direct losses incurred]

YEAR	TOTAL INSURANCE			AUTO. LIABILITY, BODILY INJURY			AUTO. LIABILITY, PROPERTY DAMAGE ¹			PHYSICAL DAMAGE ²		
	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written
1950----	2,625	1,069	40.7	931	396	42.5	482	231	47.9	1,212	442	36.5
1955----	4,644	2,122	45.7	1,735	820	47.3	896	415	46.3	2,013	887	43.6
1960----	6,448	3,645	56.5	2,841	1,697	59.7	1,219	675	55.4	2,388	1,273	53.3
1963----	7,341	4,459	60.7	3,333	2,017	60.5	1,328	826	62.2	2,680	1,616	60.3
1964----	7,582	4,787	63.1	3,612	2,266	62.7	1,418	940	66.3	2,552	1,581	62.0

¹ Covers real property against damage by autos.² Covers auto fire, theft, collision, and comprehensive.Source: The Spectator, Philadelphia, Pa.; *Insurance Yearbook*, Fire and Casualty Volume; and beginning 1955, *Insurance by States*.

No. 826. CARS AND TRUCKS IN USE, BY AGE: 1950 TO 1965

[As of July 1. Prior to 1960, excludes Alaska and Hawaii. Excludes vehicles for which age was not known]

AGE	1950		1955		1960		1964		1965	
	Number (1,000)	Percent	Number (1,000)	Percent	Number (1,000)	Percent	Number (1,000)	Percent	Number (1,000)	Percent
Total cars	35,824	100.0	47,123	100.0	56,935	100.0	65,999	100.0	68,935	100.0
Under 3 years.....	10,957	30.6	14,443	30.7	14,186	24.9	19,824	30.0	21,578	31.3
3 to 5 years.....	6,083	17.0	15,148	32.2	18,846	32.2	17,175	26.0	18,013	26.1
6 to 8 years.....			10,146	21.5	12,350	21.7	13,778	20.9	13,571	19.7
9 to 11 years.....			9,233	25.8	9,199	16.2	9,820	14.9	9,802	14.3
12 years and over.....	9,551	26.7	7,365	15.6	2,825	5.0	5,401	8.2	5,911	8.6
Total trucks	7,525	100.0	9,111	100.0	10,771	100.0	12,416	100.0	13,106	100.0
Under 3 years.....	2,476	32.9	2,039	22.4	2,046	19.0	2,834	22.8	3,222	24.6
3 to 5 years.....	1,719	22.8	2,767	30.4	2,418	22.4	2,372	19.1	2,476	18.9
6 to 8 years.....	362	4.8	2,319	25.5	2,077	19.3	1,924	15.5	1,950	14.9
9 to 11 years.....	1,342	17.8	702	7.7	2,332	21.7	1,875	15.1	1,844	14.1
12 years and over.....	1,626	21.6	1,285	14.1	1,898	17.6	3,410	27.5	3,614	27.6

Source: Compiled from data furnished by R. L. Polk & Co., Detroit, Michigan. Further reproduction prohibited without Polk permission.

NO. 827. MOTORTRUCKS, BY SIZE-CLASS, AREA OF OPERATION, AND MAJOR USE—STATES: 1963

[In thousands. Includes private and commercial single-unit trucks and combinations. Based on a probability sample of truck license holders, and subject to sampling variability]

STATE	Total	SIZE-CLASS ¹			AREA OF OPERATION ²			MAJOR USE				
		Light	Medium	Heavy	Local	Intermediate	Long distance	Agriculture	Personal	Wholesale and retail business	Contract construction	Services
U.S.	12, 726	8, 853	1, 128	2, 094	8, 751	895	193	3, 528	3, 114	1, 664	1, 198	930
N.E.	505	312	59	113	373	43	4	72	108	101	71	51
Maine	75	49	6	18	54	7	(Z)	17	20	11	8	6
N.H.	47	30	6	9	32	5	1	8	12	8	6	4
Vt.	30	18	5	7	21	3	(Z)	9	6	5	2	2
Mass.	185	105	23	48	143	15	2	16	25	47	28	21
R.I.	38	23	5	8	27	3	(Z)	3	7	9	5	5
Conn.	129	86	15	25	95	9	1	19	38	20	21	13
M.A.	1, 336	814	137	299	977	93	18	160	235	270	179	146
N.Y.	524	294	67	128	398	31	4	67	72	110	69	64
N.J.	273	164	24	64	190	20	4	21	38	54	47	38
Pa.	539	356	47	108	388	41	10	71	126	106	62	44
E.N.C.	1, 976	1, 286	224	356	1, 397	139	31	575	343	298	200	140
Ohio	449	281	54	87	316	32	8	116	63	79	53	36
Ind.	386	264	36	67	257	30	10	117	95	51	32	21
Ill.	462	290	57	90	341	27	5	130	64	71	50	35
Mich.	406	269	44	67	286	26	6	97	95	62	39	30
Wis.	272	182	33	44	196	23	3	114	26	36	25	19
W.N.C.	1, 672	1, 094	176	325	1, 187	97	19	811	253	157	114	91
Minn.	290	180	37	57	201	16	4	115	44	33	24	18
Iowa	264	189	24	38	197	11	1	129	33	30	21	15
Mo.	383	252	33	75	270	25	6	144	68	43	31	25
N. Dak.	119	69	23	23	88	6	1	86	9	7	5	3
S. Dak.	105	72	10	20	70	9	1	60	17	8	5	5
Neb.	192	124	18	43	135	12	3	105	27	17	12	8
Kans.	320	207	31	67	226	18	3	171	55	20	16	18
S.A.	1, 729	1, 197	156	279	1, 139	126	38	426	408	248	163	140
Del.	59	34	6	14	37	4	3	11	13	7	7	5
Md.	149	93	16	29	102	11	1	22	29	26	20	15
D.C.	17	9	3	4	14	(Z)	(Z)	(Z)	1	6	3	3
Va.	237	160	23	40	160	17	5	65	57	28	21	16
W. Va.	127	92	7	20	79	11	2	23	45	16	7	9
N.C.	351	254	28	55	231	26	11	119	73	48	25	21
S.C.	157	123	11	17	101	10	1	54	42	16	17	8
Ga.	311	218	30	44	197	24	5	85	78	46	20	20
Fla.	322	214	32	56	217	22	9	46	71	56	43	42
E.S.C.	957	672	84	150	588	63	15	380	203	114	51	56
Ky.	261	178	26	43	163	17	3	105	52	30	15	16
Tenn.	247	164	25	48	152	16	6	105	40	30	16	15
Ala.	250	180	17	37	153	16	5	77	70	32	15	16
Miss.	199	149	16	23	120	14	1	93	41	21	6	10
W.S.C.	1, 812	1, 346	111	250	1, 193	131	30	566	487	190	132	113
Ark.	231	180	16	24	150	14	2	95	68	20	12	11
La.	241	148	20	48	150	24	2	51	52	37	17	18
Okla.	335	232	25	56	208	21	7	125	76	31	22	20
Tex.	1, 005	786	49	123	684	71	19	296	290	102	80	65
Mt.	968	733	63	135	650	78	11	268	365	87	75	56
Mont.	126	86	14	21	88	9	1	59	31	10	7	6
Idaho	122	87	8	20	78	9	2	51	38	8	5	5
Wyo.	68	49	6	10	41	10	1	21	23	3	6	4
Colo.	231	176	12	37	161	15	2	73	83	22	15	13
N. Mex.	116	87	6	17	70	12	2	23	52	10	7	8
Ariz.	153	122	9	15	109	9	2	15	64	21	19	13
Utah	97	80	6	8	65	10	1	20	44	10	9	4
Nev.	55	46	2	5	38	4	(Z)	6	30	4	6	4
Pac.	1, 771	1, 399	119	188	1, 247	124	28	270	711	198	214	136
Wash.	273	200	25	37	198	18	5	73	104	24	21	16
Oreg.	176	123	15	25	114	13	4	46	64	19	10	7
Calif.	1, 265	1, 035	73	116	892	88	19	143	524	147	174	108
Alaska	28	21	2	4	21	2	(Z)	1	13	3	4	2
Hawaii	30	19	3	6	22	2	(Z)	6	6	5	5	3

Z Less than 500 trucks.

¹ Based on physical characteristics of vehicles reported; approximates following classification in terms of gross vehicle weight (empty weight of vehicle plus load it was designed to carry): Light—10,000 lb. or less; Medium—10,001 to 19,500 lb.; Light-heavy—19,501 to 26,000 lb.; Heavy-heavy—over 26,000 lb.

² Local—in or around city and suburbs or within a short distance of the farm, factory, or home base of the vehicle; Intermediate—beyond local limits but usually not more than 200 miles, one way, from home base of vehicle; Long distance—trips usually more than 200 miles, one way, from home base. U.S. total for trucks not reported, 2,236,000.

Source: Dept. of Commerce, Bureau of the Census; 1963 *Truck Inventory and Use Survey*, U.S. Summary Report, TC 63 (A)-T61.

No. 828. MOTOR-VEHICLE ACCIDENTS—PERSONS KILLED OR INJURED, BY CHARACTERISTICS OF ACCIDENTS: 1950 TO 1965

[Percent distribution. Estimates based on statistical summaries of motor vehicle accidents prepared by various States]

CHARACTERISTIC	PERSONS KILLED				PERSONS INJURED			
	1950	1960	1964	1965	1950	1960	1964	1965
Number	35,500	38,000	48,000	48,500	1,799,800	3,078,000	3,840,000	4,100,000
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TYPE OF ACCIDENT								
Collision with—								
Automobile.....	35.0	39.5	39.8	41.2	57.5	74.9	73.1	72.5
Pedestrian.....	26.5	20.0	18.5	18.6	16.6	8.3	7.2	6.7
Fixed object.....	8.5	10.7	11.2	10.5	6.5	4.8	5.3	5.1
Other ¹	6.0	4.8	4.7	4.5	3.2	2.1	2.3	2.4
Non-collision.....	24.0	25.0	25.8	25.2	16.2	9.9	12.1	13.3
WEATHER CONDITION								
Clear.....	81.3	87.4	87.5	84.8	78.4	83.9	82.3	78.6
Fog.....	2.8	1.2	2.0	2.0	1.8	0.7	1.3	1.5
Rain.....	14.0	9.0	8.7	11.0	16.2	10.6	11.9	15.4
Snow.....	1.9	2.4	1.8	2.2	3.6	4.8	4.5	4.5
ROAD CONDITION								
Dry.....	75.1	79.2	81.3	77.4	68.7	71.5	72.6	69.1
Wet.....	21.4	15.1	14.2	17.9	24.5	16.5	17.9	22.4
Snowy.....	1.5	2.8	2.6	1.4	3.0	5.8	5.5	2.6
Icy.....	2.0	2.9	1.9	3.3	3.8	6.2	4.0	5.9
DAY OF ACCIDENT								
Sunday.....	20.1	17.7	18.4	18.7	17.7	15.2	14.3	13.6
Monday.....	12.4	11.5	11.5	10.9	13.2	13.5	12.9	13.2
Tuesday.....	10.8	11.6	11.0	10.0	11.8	12.2	12.7	11.9
Wednesday.....	11.6	10.5	11.3	11.2	12.1	12.1	12.8	12.9
Thursday.....	11.3	11.2	11.5	11.9	12.4	13.5	12.8	13.9
Friday.....	13.6	16.0	15.2	15.4	14.7	16.0	16.5	16.5
Saturday.....	20.2	21.5	21.1	21.9	18.1	17.5	18.0	18.0
HOUR OF ACCIDENT								
Midnight to 6 a.m.....	21.6	22.3	22.5	22.2	12.7	10.9	11.0	10.7
6 a.m. to noon.....	14.8	15.6	15.4	14.8	19.2	22.0	21.2	21.8
Noon to 6 p.m.....	28.3	27.8	28.4	28.7	38.6	40.5	40.4	39.7
6 p.m. to midnight.....	35.3	34.3	33.7	34.3	29.5	26.6	27.4	27.8
AGE OF VICTIMS								
Under 10 years.....	(NA)	(NA)	7.4	7.6	(NA)	(NA)	9.4	8.9
10 to 19 years.....	(NA)	(NA)	15.1	15.9	(NA)	(NA)	20.0	21.4
20 to 34 years.....	(NA)	(NA)	28.4	28.4	(NA)	(NA)	31.8	31.6
35 to 54 years.....	(NA)	(NA)	23.6	24.3	(NA)	(NA)	26.7	25.7
55 years and over.....	(NA)	(NA)	25.5	23.8	(NA)	(NA)	12.1	12.4

NA Not available.

¹ Railroad train, bicycle, other vehicle, and miscellaneous.

Source: The Travelers Insurance Companies, Hartford, Connecticut; annual report, *The Travelers Book of Street and Highway Accident Data*.

No. 829. DEATHS FROM MOTOR-VEHICLE ACCIDENTS, BY TYPE OF ACCIDENT: 1950 TO 1965

ITEM	1950	1955	1960	1962	1963	1964 (prel.)	1965 (prel.)
Traffic deaths ¹	34,763	38,426	38,137	40,804	43,564	47,700	49,000
Noncollision accidents.....	10,600	12,100	11,900	12,900	13,800	14,600	14,900
Collision accidents:							
With other motor vehicles.....	11,650	14,500	14,800	16,400	17,600	19,600	20,600
With pedestrians.....	9,000	8,200	7,850	7,900	8,200	8,950	8,800
With other vehicles or objects.....	3,490	3,605	3,613	3,588	3,955	4,550	4,700
Traffic death rates:							
Per 100,000 population ²	23.0	23.4	21.2	22.0	23.1	24.9	25.3
Per 10,000 motor vehicles.....	7.1	6.1	5.1	5.1	5.2	5.5	5.4
Per 100 million vehicle miles.....	7.6	6.4	5.3	5.3	5.4	5.7	5.6

¹ Totals do not equal sums of various types because the estimates are generally made only to nearest 10 deaths, and to nearest 50 deaths for certain types.

² Based on Bureau of the Census estimated population as of July 1, excluding Armed Forces abroad.

Source: National Safety Council, Chicago, Ill.; annual report, *Accident Facts* (copyright).

Motor-Vehicle Accidents

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NO. 830. DRIVER AND PEDESTRIAN ACTION IN ACCIDENTS: 1950 TO 1965

[Percent distribution. See headnote, table 828]

TYPE OF ACTION	PERSONS KILLED				PERSONS INJURED			
	1950	1960	1964	1965	1950	1960	1964	1965
DRIVER ACTION								
Number.....	26,700	30,400	40,300	41,600	1,210,000	2,600,000	3,360,000	3,682,000
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Exceeded speed limit.....	49.8	36.1	40.7	41.1	39.3	38.5	40.0	42.2
On wrong side of road.....	17.8	17.0	15.4	16.4	8.7	6.7	6.8	6.8
Had not right-of-way.....	10.4	12.8	11.7	13.0	26.6	22.5	17.0	18.9
Drove off roadway.....	5.2	16.6	12.7	10.5	2.9	8.3	7.2	6.9
Reckless driving.....	8.5	12.5	15.1	14.9	9.0	13.5	23.9	19.2
Other ¹	8.3	5.0	4.4	4.1	13.5	10.5	5.1	6.0
PEDESTRIAN ACTION								
Number of pedestrians.....	9,400	7,600	8,900	9,000	299,500	255,500	276,500	274,700
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Crossing at intersection:								
With signal (incl. diagonally).....	4.6	6.2	6.3	4.8	10.1	11.9	10.6	8.6
Against signal.....	6.3	7.1	6.2	8.6	9.4	8.5	7.1	9.5
No signal.....	13.5	15.9	13.4	7.4	13.6	12.3	11.4	8.1
Crossing between intersections.....	39.8	37.1	39.7	48.8	26.1	32.2	31.2	31.6
Children playing in street.....	5.8	5.3	3.1	3.3	16.6	6.6	7.1	6.3
At work in road.....	3.1	2.9	2.5	2.8	2.7	2.2	1.9	1.8
Coming from behind parked car.....	6.7	6.2	6.3	6.9	9.1	15.7	16.7	16.8
Walking on rural highway.....	13.0	10.0	11.3	15.6	2.3	2.4	5.7	7.6
Not on roadway.....	3.5	4.2	3.8	4.7	6.5	4.5	4.0	3.6
Other ²	3.7	5.1	7.4	5.1	3.6	3.7	4.3	6.1

¹ Cutting in; passing on curve, hill, or wrong side; no or improper signalling; movement of driverless car; and miscellaneous.

² Standing on safety isle; getting on or off other vehicle; riding or hitching on vehicle; and miscellaneous.

Source: The Travelers Insurance Companies, Hartford, Connecticut; annual report, *The Travelers Book of Street and Highway Accident Data*.

NO. 831. DEATHS FROM MOTOR-VEHICLE ACCIDENTS—PLACE OF DEATH, BY STATES: 1950 TO 1964

STATE	1950	1955	1960	1963	1964	STATE	1950	1955	1960	1963	1964
U.S. ¹	34,763	38,426	38,137	43,564	46,930	Mo.....	902	1,079	1,078	1,194	1,324
Ala.....	859	859	926	1,040	1,062	Mont.....	209	244	231	229	276
Alaska.....	22	31	43	46	45	Nebr.....	317	331	310	358	465
Ariz.....	333	384	507	531	586	Nev.....	122	186	182	220	234
Ark.....	365	447	449	566	645	N.H.....	103	110	103	147	157
Calif.....	3,082	3,524	3,837	4,460	4,903	N.J.....	715	815	764	995	1,079
Colo.....	415	455	443	519	611	N. Mex.....	340	383	427	388	398
Conn.....	287	353	303	359	351	N. Y.....	1,961	2,163	2,034	2,338	2,740
Del.....	84	112	91	101	121	N. C.....	1,153	1,222	1,281	1,422	1,649
D.C.....	102	99	82	85	105	N. Dak.....	105	153	166	208	195
Fla.....	882	1,048	1,303	1,656	1,609	Ohio.....	1,850	2,089	1,933	2,011	2,068
Ga.....	928	1,122	1,079	1,298	1,367	Okla.....	504	569	686	748	794
Hawaii.....	74	64	111	99	105	Oreg.....	461	434	469	589	606
Idaho.....	243	184	231	203	260	Pa.....	1,656	1,872	1,685	1,888	1,972
Ill.....	1,953	1,877	1,564	1,947	1,486	R.I.....	87	94	60	94	106
Ind.....	1,136	1,189	1,164	1,378	1,458	S. C.....	627	696	690	767	851
Iowa.....	620	613	644	727	858	S. Dak.....	198	200	241	237	270
Kansas.....	546	613	635	642	687	Tenn.....	801	968	899	1,075	1,196
Ky.....	753	907	808	881	939	Tex.....	2,499	2,602	2,316	2,750	3,022
La.....	585	703	849	849	1,053	Utah.....	199	211	260	277	299
Maine.....	161	177	181	204	205	Vt.....	69	87	104	116	127
Md.....	480	500	527	609	608	Va.....	929	909	782	1,011	1,071
Mass.....	492	621	621	674	704	Wash.....	534	514	597	651	760
Mich.....	1,627	2,036	1,634	1,915	2,158	W. Va.....	400	398	371	435	483
Minn.....	558	613	750	824	898	Wis.....	857	954	926	912	1,058
Miss.....	525	562	669	706	738	Wyo.....	149	145	182	185	159

¹ Prior to 1960, excludes Alaska and Hawaii.

Source: Dept. of Health, Education, and Welfare, Public Health Service; annual report, *Vital Statistics of the United States*.

No. 832. TRANSIT INDUSTRY—SUMMARY: 1940 TO 1964

[Money figures in millions of dollars, except as indicated. Prior to 1960, excludes Alaska and Hawaii. Comprises all privately and publicly owned organized local passenger transportation agencies except taxicabs, suburban railroads, and sightseeing and school buses. Covers (a) local motorbus lines, (b) electric street railways, (c) elevated and subway lines, (d) interurban electric railways and (e) trolley coach lines. Based on financial and statistical reports received by American Transit Association from transit companies representing more than 85 percent of the industry. See also *Historical Statistics, Colonial Times to 1857*, series Q 330-340]

ITEM	1940	1945	1950	1955	1960	1961	1962	1963	1964
Operating companies	(NA)	1,253	1,406	1,483	1,251	1,247	1,205	1,186	1,152
Motorbus companies ¹	(NA)	1,164	1,354	1,450	1,236	1,244	1,202	1,183	1,149
Miles of route operated (Dec. 31):									
Electric railway—single track.....	19,602	17,702	10,813	6,197	3,143	2,601	2,557	2,236	2,173
Surface.....	18,360	16,480	9,590	4,976	1,900	1,355	1,312	990	918
Subway and elevated.....	1,242	1,222	1,223	1,221	1,243	1,246	1,245	1,246	1,255
Trolley coach—negative overhead wire.....	1,925	2,313	3,513	3,428	2,196	2,017	1,849	1,119	986
Motorbus—route round trip.....	78,000	90,400	98,000	99,800	108,700	111,600	114,300	117,400	118,300
Passenger vehicles owned (Dec. 31):									
Electric railway cars.....	75,464	89,758	86,310	73,089	65,292	64,012	63,045	62,189	61,689
Surface.....	37,662	36,377	22,986	14,532	11,866	11,419	11,084	10,634	10,624
Subway and elevated.....	26,630	26,160	13,228	5,300	2,856	2,341	2,219	1,756	1,560
Trolley coaches.....	11,032	10,217	9,758	9,232	9,010	9,078	8,865	8,878	9,064
Motorbuses.....	2,802	3,711	6,504	6,157	3,826	3,593	3,161	2,155	1,865
	35,000	49,670	56,820	52,400	49,600	49,000	48,800	49,400	49,200
Investment (Dec. 31)	4,096	4,262	3,918	3,821	3,937	3,919	4,002	4,025	4,106
Electric railway.....	3,588	3,620	3,060	2,902	3,003	2,967	3,042	3,076	3,144
Surface.....	1,574	1,570	913	616	367	235	229	175	165
Subway and elevated.....	2,014	2,050	2,147	2,286	2,636	2,732	2,813	2,901	2,979
Trolley coach.....	58	76	144	160	117	115	106	70	65
Motorbus.....	450	566	714	759	817	837	854	879	897
Operating finances:									
Operating revenue.....	737	1,380	1,452	1,426	1,407	1,390	1,404	1,391	1,408
Electric railway.....	456	710	578	440	369	366	366	349	351
Surface.....	328	560	362	176	88	80	73	61	56
Subway and elevated.....	128	149	216	264	282	286	293	287	296
Trolley coach.....	25	68	122	131	82	79	76	56	46
Motorbus.....	256	603	752	856	966	945	961	986	1,010
Operating expenses.....	598	1,067	1,297	1,277	1,290	1,296	1,306	1,313	1,343
Percent of revenue.....	81.1	77.3	89.3	89.6	91.7	93.2	93.1	94.4	95.4
Net revenue.....	139	313	155	149	117	94	98	78	66
Taxes (all).....	63	165	89	93	87	77	78	79	78
Operating income.....	76	149	66	56	31	17	20	2 ¹	2 ¹
Percent of revenue.....	10.4	10.8	4.6	3.9	2.2	1.2	1.4	(3)	(3)
Revenue vehicle-miles operated									
Electric railway..... millions.....	2,596	3,254	3,008	2,448	2,143	2,077	2,047	2,022	2,016
Surface..... millions.....	1,316	1,398	907	561	466	455	448	436	439
Subway and elevated..... millions.....	845	940	463	178	75	69	62	49	43
Trolley coach..... millions.....	471	458	443	383	391	385	387	387	396
Motorbus..... millions.....	86	133	206	177	101	93	84	62	49
	1,195	1,722	1,895	1,710	1,576	1,530	1,515	1,523	1,528
Passengers carried millions.....	13,098	23,254	17,246	11,529	9,395	8,833	8,695	8,400	8,328
Electric railway..... millions.....	8,825	12,124	6,168	3,077	2,313	2,289	2,283	2,165	2,166
Surface..... millions.....	5,943	9,426	3,904	1,207	463	434	398	329	289
Subway and elevated..... millions.....	2,382	2,698	2,264	1,870	1,850	1,855	1,890	1,836	1,877
Trolley coach..... millions.....	534	1,244	1,658	1,202	657	601	547	413	349
Motorbus..... millions.....	4,239	9,886	9,420	7,250	6,425	5,993	5,865	5,822	5,813
Revenue passengers carried									
Electric railway..... millions.....	10,504	18,982	13,845	9,189	7,521	7,242	7,122	6,915	6,854
Surface..... millions.....	6,464	9,636	4,903	2,586	2,005	2,003	1,988	1,899	1,911
Subway and elevated..... millions.....	4,183	7,081	2,790	845	335	323	284	238	213
Trolley coach..... millions.....	2,282	2,555	2,113	1,741	1,670	1,680	1,704	1,661	1,698
Motorbus..... millions.....	419	1,001	1,261	869	447	405	361	264	214
	3,620	8,345	7,681	5,734	5,069	4,834	4,773	4,752	4,729
Number of employees (average)									
Subway and elevated..... 1,000.....	203	242	240	198	156	152	149	147	145
Surface railway—trolley coach and motorbus.....	203	34	39	41	35	35	35	34	35
Payroll.....	360	632	835	864	857	856	878	892	917
Average annual earnings per employee..... dollars.....	1,773	2,612	3,479	4,364	5,481	5,642	5,889	6,062	6,332

NA Not available. ¹ Comprises companies operating motorbuses exclusively and companies with combined services such as trolley coach and motorbus, etc.

² Deficit. ³ Deficits not computed as percent of operating revenue.

Source: American Transit Association, New York, N.Y.; annual report, *Transit Fact Book*.

No. 833. INTERCITY BUS LINES—SUMMARY OF OPERATIONS: 1960 TO 1965

[Excludes Alaska and Hawaii]

ITEM	1960	1962	1963	1964 est.	1965 est.
Operating companies.....	1,550	1,450	1,450	1,450	1,400
Buses.....	24,530	26,100	26,100	26,800	28,100
Miles of highway served (Dec. 31) ¹	238,000	240,000	242,000	243,000	243,000
Employees (Dec. 31) ²	48,800	50,600	51,300	52,800	52,900
Total bus miles.....	1,177	1,242	1,265	1,314	1,341
Revenue passengers.....	456.8	460.9	457.8	461.3	464.3
Revenue passenger-miles.....	19,900	21,300	21,900	22,700	23,100
Operating revenue, all services.....	\$1,000	\$84,400	\$68,700	\$86,700	\$77,700
Operating expenses.....	\$1,000	\$22,700	\$16,100	\$21,700	\$20,200
Net operating revenue before income taxes.....	\$1,000	\$61,700	\$52,600	\$65,000	\$57,500
Taxes assignable to operations ³	\$1,000	\$6,000	\$2,700	\$3,100	\$6,700

¹ Includes duplication between carriers. ² Operating companies only. ³ Excludes income taxes.Source: National Association of Motor Bus Owners, Washington, D.C.; *Bus Facts*.

No. 834. INTERCITY MANUFACTURER'S SHIPMENTS, BY SHIPPER GROUPS AND MEANS OF TRANSPORT: 1963

["Shipper group" is a general class of industrial establishments primarily engaged in manufacturing the type of products indicated in the shipper group designation. The 24 groups combined represent essentially all manufacturing establishments, except for printing and publishing, manufactured ice, ordnance plants, fluid milk, bakery products, and primary forest products]

SHIPPER GROUP	SHIPMENTS					DISTANCE OF SHIPMENTS				
	Total (mil. tons)	Percent by means of transport				Total (billion ton- miles) ²	Percent by means of transport			
		Rail	Motor car- rier	Priv- ate truck	Other ¹		Rail	Motor car- rier	Priv- ate truck	Other ¹
Total.....	1,437	33	25	17	25	632	37	14	5	44
Meat and dairy products.....	43	28	30	42	-	17	46	36	17	1
Canned and frozen foods and other food products ³	128	59	23	17	1	50	75	17	7	1
Candy, beverages, and tobacco products.....	51	19	33	46	2	16	47	33	17	3
Textile mill and leather products.....	13	14	64	20	2	6	25	59	12	4
Apparel and related products.....	4	9	62	11	18	2	10	62	7	21
Paper and allied products.....	66	50	33	14	3	27	71	21	4	4
Basic chemicals, plastics materials ⁴	80	54	23	10	13	36	62	14	4	20
Drugs, paints, and other chemical products.....	62	42	34	21	3	24	61	24	8	7
Petroleum and coal products.....	427	8	10	7	75	277	4	2	1	93
Rubber and plastics products.....	9	25	63	9	3	5	37	52	6	5
Lumber and wood products (exc. furniture).....	70	54	14	30	2	42	84	7	7	2
Furniture, fixtures, and misc. manu- factured products.....	10	25	41	32	2	5	44	35	17	4
Stone, clay, and glass products.....	234	35	30	30	5	34	51	27	15	7
Primary iron and steel products.....	121	53	36	4	7	34	62	24	2	12
Primary nonferrous metal products..	19	51	34	11	4	11	73	21	4	2
Fabricated metal products ⁵	16	22	43	32	3	6	41	36	18	5
Metal cans and misc. fabricated metal products.....	13	27	55	15	3	5	42	47	7	4
Industrial machinery (exc. electrical). Machinery (exc. electrical and industrial).....	6	21	65	8	6	3	25	62	4	9
Communication products and parts..	14	37	50	10	3	9	52	40	4	4
Electrical products and parts.....	2	22	56	9	13	2	29	48	4	19
Motor vehicles and equipment.....	10	34	50	13	3	6	48	40	7	5
Transportation equipment ⁶	35	51	42	6	1	16	70	26	3	1
Instruments, photographic equip- ment ⁷	3	35	39	22	4	1	33	44	16	7
	1	13	70	8	9	1	28	58	3	11

- Represents zero.

¹ Air, water, railway express, freight forwarders, and other miscellaneous modes of transport.² A ton-mile is the movement of 1 ton (2,000 pounds) of freight for the distance of 1 mile.³ Excludes meat and dairy products. ⁴ Includes synthetic rubber and fibers.⁵ Excludes metal cans and miscellaneous fabricated metal products.⁶ Excludes motor vehicles. ⁷ Includes watches and clocks.Source: Dept. of Commerce, Bureau of the Census; 1963 *Commodity Transportation Survey*, Series TC 63 (P) C1-1-24.

No. 835. CLASS I INTERCITY MOTOR CARRIERS OF PROPERTY—SUMMARY OF FINANCIAL AND OPERATING STATISTICS: 1950 to 1964

[All money figures in millions of dollars, except revenue and expense per vehicle-mile. Prior to 1960, excludes Alaska and Hawaii. See text, p. 560, for explanation of class limits]

ITEM	1950	1955	1960	1963	1964
Number of carriers reporting.....	1,621	2,244	935	1,004	1,025
Investment in carrier operating property.....	748	1,515	1,992	2,432	2,614
Reserve for depreciation and amortization.....	309	736	998	1,251	1,339
Income statement:					
Operating revenue.....	2,380	4,030	4,763	5,756	6,199
Common carrier.....	2,181	3,622	4,384	5,388	5,835
Contract carrier.....	144	294	239	212	201
Other operating revenue.....	55	114	141	156	164
Expenses.....	2,215	3,870	4,645	5,520	5,918
Operation and maintenance expenses.....	1,968	3,497	4,151	4,929	5,297
Depreciation and amortization ¹	84	157	202	230	243
Operating taxes and licenses ²	103	216	291	361	378
Operating rents, net.....	59	(NA)	(NA)	(NA)	(NA)
Operating ratio (percent expenses of operating revenue).....	93.1	96.0	97.5	95.9	95.5
Net operating revenue.....	165	160	119	236	2.82
Lease of distinct operating unit, net.....	1	1	1	2	1
Other income, less income deductions.....	6	14	36	38	40
Net income before income taxes.....	150	146	81	196	240
Net income after income taxes.....	93	82	37	122	152
Dividend appropriations and withdrawals ³	23	20	24	37	37
Operating statistics and averages:					
Owned revenue vehicles ⁴	191,243	288,668	279,305	308,687	317,859
Inter-city vehicle-miles..... millions.....	5,352	7,559	7,203	7,882	8,209
Tons of intercity revenue freight carried ⁵ 1,000.....	212,997	313,583	275,518	337,734	360,209
Miles per owned vehicle.....	53,833	53,008	59,590	63,211	65,078
Revenue per vehicle-mile (intercity).....	\$0.43	\$0.52	\$0.64	\$0.71	\$0.74
Expense per vehicle-mile (intercity) ⁶	\$0.41	\$0.51	\$0.65	\$0.70	\$0.72

NA Not available.

¹ Amortization represents a very small part of this total. ² Excludes Federal and State income taxes.

³ Withdrawals of sole proprietors and partners. ⁴ Excludes equipment used under lease, including operations conducted under "purchased transportation" arrangements.

⁵ Includes duplications on account of tonnage received from connecting motor carriers.

⁶ Basic figures include expenses of operating vehicles in local services not available separately.

No. 836. CLASS I INTERCITY MOTOR CARRIERS OF PROPERTY—SELECTED OPERATING STATISTICS, BY REGIONS: 1963 and 1964

[Money figures in millions of dollars. See text, p. 560, for explanation of class limits. Regions: 1, Conn., Maine, Mass., N.H., R.I., Vt.; 2, Del., D.C., Md., N.J., N.Y., Pa., W. Va.; 3, Ill., Ind., Mich. (Lower Pen.), Ohio; 4, Ala., Fla., Ga., Ky., Miss., N.C., S.C., Tenn., Va.; 5, Mich. (Upper Pen.), Minn., N. Dak., S. Dak., Wis.; 6, Iowa, Kans., Mo., Nebr.; 7, Ark., La., Okla., Tex.; 8, Colo., Idaho, Mont., N. Mex., Utah, Wyo.; 9, Ariz., Calif., Nev., Oreg., Wash.]

YEAR AND REGION	Number of carriers reporting	Operating revenue	Total expenses	OWNED REVENUE VEHICLES ¹				Inter-city vehicle-miles (millions)	EMPLOYEES ²	
				Trucks	Truck-tractors	Semi-trailers	Full trailers		Average number	Compensation
1963.....	1,004	5,756	5,520	32,039	93,843	179,882	2,923	7,882	351,104	2,546
1. New England.....	65	223	218	1,916	3,810	6,420	-	206	17,045	116
2. Middle Atlantic.....	206	980	946	6,035	16,696	34,060	124	1,207	63,857	453
3. Central.....	264	1,745	1,673	3,886	24,523	48,773	767	2,422	91,460	702
4. Southern.....	159	906	862	6,526	17,624	33,029	169	1,446	62,230	414
5. Northwestern.....	57	335	319	1,706	6,116	10,341	13	482	19,925	149
6. Midwestern.....	66	347	338	2,019	5,730	12,008	35	468	20,848	150
7. Southwestern.....	70	418	392	2,893	7,051	11,140	51	665	26,495	181
8. Rocky Mountain.....	33	265	251	1,725	3,466	7,157	258	366	15,779	120
9. Pacific.....	84	537	521	5,333	8,827	16,954	1,506	621	33,465	260
1964.....	1,025	6,199	5,918	32,785	94,713	187,431	2,930	8,209	364,930	2,754
1. New England.....	67	243	239	1,891	3,999	6,824	-	214	17,789	128
2. Middle Atlantic.....	214	1,065	1,025	6,144	17,036	34,931	155	1,253	65,997	488
3. Central.....	271	1,886	1,805	4,042	23,649	49,525	707	2,549	96,661	763
4. Southern.....	159	958	911	6,772	17,561	34,478	178	1,460	63,603	442
5. Northwestern.....	57	352	331	1,740	6,415	11,017	-	475	20,513	158
6. Midwestern.....	65	367	356	2,029	5,688	12,611	38	476	20,381	155
7. Southwestern.....	68	449	419	2,710	7,480	12,209	53	703	27,089	194
8. Rocky Mountain.....	33	288	269	1,792	3,440	7,622	265	391	16,514	131
9. Pacific.....	91	592	563	5,665	9,445	18,214	1,534	687	36,383	294

- Represents zero. ¹ See footnote 4, table 835.

² Excludes drivers of equipment engaged to perform "purchased transportation" service.

Source of tables 835 and 836: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 7.

No. 837. CLASS I INTERCITY MOTOR CARRIERS OF PASSENGERS—SUMMARY OF FINANCIAL AND OPERATING STATISTICS: 1950 TO 1964

[All money figures in millions of dollars, except as indicated. Excludes Alaska and Hawaii. See headnote, table 835. Excludes carriers subject to ICC jurisdiction engaged preponderantly in local or suburban service and carriers engaged in transportation of both property and passengers]

ITEM	1950	1955	1960	1963	1964
Number of carriers reporting	172	146	143	148	161
Investment in carrier operating property	286	373	466	580	631
Reserve for depreciation and amortization	144	197	257	295	317
Income statement:					
Operating revenue	351	362	463	610	655
Passenger revenue ¹	325	315	382	498	521
Special bus revenue	12	22	36	51	64
Other operating revenue	15	25	45	61	70
Expenses	315	331	405	529	570
Operation and maintenance expenses	255	270	334	441	474
Depreciation and amortization ²	27	27	29	33	38
Operating taxes and licenses ³	29	30	36	45	47
Operating rents, net	4	3	6	10	11
Operating ratio (percent expenses of operating revenue)	89.7	91.4	87.5	86.8	87.0
Net operating revenue	36	31	58	81	85
Net income, less income deductions	4	4	4	1	—
Net income before income taxes	35	29	55	82	85
Net income after income taxes	19	16	28	48	52
Dividend appropriations and withdrawals ⁴	16	28	3	9	10
Operating statistics and averages:					
Passenger vehicles owned, end of year	13,200	11,547	10,946	13,608	14,274
Vehicle-miles of owned and leased passenger vehicles ⁵	958,530	859,207	843,239	1,008,585	1,055,594
Number of revenue passengers carried	389,898	293,244	267,507	514,177	507,802
Miles per vehicle ⁶	65,411	64,128	65,567	68,549	67,671
Average fare per passenger, per carrier, intercity service	\$1.01	\$1.37	\$2.12	\$2.38	\$2.43
Passenger revenue per vehicle-mile, regular-route intercity	\$0.35	\$0.38	\$0.49	\$0.52	\$0.53
Expense per vehicle-mile ⁷	\$0.33	\$0.38	\$0.48	\$0.52	\$0.54

- Represents zero.

¹ Regular-route intercity and local revenue. ² Amortization represents a very small part of this total.

³ Excludes Federal and State income taxes. ⁴ Deduct. ⁵ Withdrawals of sole proprietors and partners.

⁶ Includes bus-miles of vehicles operated under "purchased transportation" arrangements.

⁷ Averages for owned and leased vehicles. ⁸ See footnote 6, table 835.

No. 838. CLASS I INTERCITY MOTOR CARRIERS OF PASSENGERS—SELECTED OPERATING STATISTICS, BY REGIONS: 1963 and 1964

[Excludes Alaska and Hawaii. See headnote, table 837; for description of regions, see headnote, table 836]

YEAR AND REGION	Number of carriers reporting	Operating revenue (\$1,000)	Total expenses (\$1,000)	PASSENGER VEHICLES		REGULAR-ROUTE INTERCITY			EMPLOYEES	
				Total ¹	Intercity ²	Vehicle-miles (1,000)	Revenue passengers carried (1,000)	Average fare per passenger, per carrier	Average number	Compensation (\$1,000)
1963	148	609,756	529,008	15,338	9,953	800,461	175,909	\$2.38	42,070	270,096
1. New England	12	19,379	18,357	683	327	19,465	5,786	1.75	1,650	9,154
2. Middle Atlantic	42	125,504	121,022	4,567	1,425	88,137	45,414	1.09	11,004	65,998
3. Central	22	115,038	97,687	1,895	1,780	153,934	29,731	3.14	7,383	50,379
4. Southern	20	114,605	94,144	2,451	2,243	185,825	41,688	2.14	7,154	45,027
5. Northwestern	4	2,051	1,825	79	64	3,421	486	2.58	126	734
6. Midwestern	7	20,289	18,555	525	337	37,889	3,496	4.50	1,173	6,958
7. Southwestern	23	52,314	44,170	2,114	1,281	90,197	15,024	2.52	3,712	20,082
8. Rocky Mountain	10	7,308	6,695	348	280	12,293	2,144	2.32	617	3,211
9. Pacific	8	153,268	126,552	2,676	2,196	209,299	32,142	3.65	9,251	68,553
1964	161	655,089	570,144	16,157	10,442	833,413	182,229	2.43	43,455	287,630
1. New England	17	22,719	20,868	867	443	22,073	8,161	1.45	1,742	10,085
2. Middle Atlantic	47	137,140	131,423	4,813	1,566	94,869	48,196	1.15	11,364	70,707
3. Central	23	123,483	103,767	2,088	2,004	162,185	29,067	3.42	7,756	53,139
4. Southern	23	128,898	107,947	2,727	2,303	203,839	44,471	2.20	7,642	49,651
5. Northwestern	4	2,295	2,007	91	66	3,550	508	2.54	133	850
6. Midwestern	7	21,768	20,018	546	363	36,468	3,454	4.04	1,288	7,650
7. Southwestern	22	55,006	46,788	2,122	1,310	90,692	14,955	2.58	3,679	20,947
8. Rocky Mountain	10	7,806	7,277	333	250	12,282	2,131	2.38	613	3,344
9. Pacific	8	155,966	130,049	2,570	2,137	207,454	31,256	3.73	9,238	71,288

¹ Comprises average number operated in intercity service during year and number owned in local operations at close of year. ² Comprises vehicles owned, leased, and operated under "purchased transportation" arrangements, operated in intercity revenue service.

Source of tables 837 and 838: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 7, and unpublished data.

No. 839. RAILROADS—SUMMARY STATISTICS: 1930 TO 1964

[As of December 31. Prior to 1960, excludes Alaska and Hawaii. Includes intercorporate duplications. See also *Historical Statistics, Colonial Times to 1967*, series Q 44-124]

ITEM	1930	1940	1950	1960	1961	1962	1963	1964
Operating companies ¹number.....	775	574	471	407	397	395	395	380
Road owned, first track ²miles.....	249,052	233,670	223,779	217,552	216,445	215,090	214,387	212,059
Miles operated: ³								
Total, reporting railroads ⁴	429,883	405,975	396,380	381,745	379,415	376,290	374,522	372,300
Road, first track ⁴	260,440	245,740	236,857	230,169	229,369	227,851	227,282	226,753
Other main tracks.....	42,742	41,373	40,456	34,800	33,853	32,719	32,153	31,535
Yardtrack and sidings.....	126,701	118,962	119,067	116,776	116,193	115,720	115,087	114,012
Miles of road operated by receivers or trustees.....	9,486	75,270	12,223	1,259	2,365	2,113	1,748	1,732
Equipment:								
Locomotives in service.....number.....	60,189	44,333	42,951	31,178	30,889	30,701	30,506	30,296
Average tractive effort ⁵pounds.....	45,225	50,905	57,075	61,314	61,969	61,415	61,533	62,311
Cars in service:								
Passenger-train.....number.....	53,584	38,308	37,359	25,746	24,433	23,430	22,616	21,510
Freight train ⁷1,000.....	2,322	1,684	1,746	1,690	1,635	1,581	1,542	1,518
Average capacity ⁸tons.....	46.9	50.0	52.6	55.4	55.7	56.3	56.8	58.2
Capital and property investment: ⁹								
Road and equipment, book value ⁹								
.....mil. dol.....	26,051	25,646	30,174	35,513	35,542	34,361	34,519	34,869
Depreciation reserve ¹⁰mil. dol.....	2,361	3,005	6,629	8,532	8,793	8,982	9,144	9,265
Capital outstanding ¹¹mil. dol.....	24,331	23,371	20,399	17,854	16,830	16,690	16,736	(12)
Net capitalization.....mil. dol.....	19,066	17,630	15,618	14,150	13,184	12,968	12,840	(12)
Stock paying dividends.....mil. dol.....	7,702	3,741	6,769	5,617	4,362	4,286	4,462	4,927
Dividends declared.....mil. dol.....	603	217	349	412	385	394	413	492
Interest accrued on funded debt.....mil. dol.....	589	547	367	387	383	376	378	384
Income and expenses:								
Operating revenues.....mil. dol.....	5,356	4,355	9,587	9,642	9,310	9,563	9,685	9,985
Operating expenses.....mil. dol.....	3,994	3,132	7,135	7,657	7,362	7,508	7,542	7,830
Tax accruals.....mil. dol.....	354	403	1,212	1,020	1,012	926	906	891
Operating income.....mil. dol.....	1,008	820	1,240	964	936	1,130	1,236	1,264
Net income ⁸mil. dol.....	578	243	855	473	410	600	681	733
Passenger service:								
Passenger revenue.....mil. dol.....	731	418	815	641	626	620	590	579
Passengers carried.....millions.....	708	456	488	327	318	313	311	314
Passenger-miles.....millions.....	26,876	23,816	31,790	21,284	20,308	19,926	18,519	18,271
Commutation ¹³millions.....	6,669	3,997	4,990	4,197	4,132	4,046	4,101	4,128
Coach ¹³millions.....	(NA)	12,485	17,443	13,422	12,893	12,767	11,785	11,069
Parlor and sleeping car ¹³millions.....	(NA)	7,288	9,338	3,643	3,262	3,102	2,611	2,191
Revenue per passenger-mile.....cents.....	2.72	1.76	2.56	3.01	3.08	3.11	3.18	3.17
Average journey per passenger.....miles.....	37.96	52.22	65.14	65.05	63.79	63.65	59.55	58.12
Freight service:								
Freight revenue.....mil. dol.....	4,145	3,584	7,934	8,152	7,859	8,115	8,271	8,575
Revenue tons originated.....millions.....	1,220	1,069	1,421	1,301	1,253	1,294	1,347	1,420
Tons carried one mile.....millions.....	385,815	375,369	591,550	575,360	566,295	595,774	625,170	662,089
Revenue ton-miles per mile of road.....1,000.....	1,481	1,526	2,497	2,497	2,461	2,612	2,750	2,918
Revenue per ton-mile.....cents.....	1.074	0.955	1.341	1.417	1.388	1.362	1.323	1.295
Haul per ton.....miles.....	316.21	351.13	416.32	442.14	452.00	460.57	463.97	466.17
Number of employees, average.....1,000.....	1,517	1,046	1,237	793	727	711	691	675
Compensation of employees.....mil. dol.....	2,589	1,991	4,645	4,957	4,684	4,722	4,690	4,758
Accidents:								
Persons killed.....number.....	5,665	4,740	3,486	2,248	2,127	2,106	2,140	2,423
Persons injured.....number.....	49,443	29,606	33,267	18,577	27,118	26,880	27,456	27,614

NA Not available.

¹ Line-haul operating.

² Excludes all duplications; also excludes some mileage in Canada.

³ Includes some duplication under trackage rights and some mileage in Canada.

⁴ Excludes circular and unofficial.

⁵ 1930-1950 average for steam locomotives only; beginning 1960, all locomotives.

⁶ Covers class I railroads, excluding switch and terminal companies. ⁷ Excludes caboose cars. ⁸ Includes lessors.

⁹ Increase in investment over a period of years cannot be obtained accurately by subtraction of 1 year's investment from that of another owing to reorganization, sale or abandonment, reclassification, etc. Includes lessor companies and proprietary companies except those which are part of systems filing consolidated annual reports.

¹⁰ For 1960 and later years, includes amortization of defense projects and proprietary companies.

¹¹ Comprises actually outstanding, nominally issued, and nominally outstanding securities, and equipment obligations. ¹² Series discontinued. ¹³ Class I railroads.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1, and *Accident Bulletin*.

No. 840. RAILROAD COMPANIES, BY CLASS: 1950 TO 1964

[Prior to 1960, excludes Alaska and Hawaii. See text, p. 560, for explanation of class limits]

CLASS OF COMPANY	1950	1955	1959	1960	1961	1962	1963	1964
Total	1,038	935	849	842	824	814	807	772
Class I line-haul operating.....	127	126	108	106	103	103	102	98
Lessors to class I.....	179	155	129	128	125	124	121	122
Class II line-haul operating.....	171	155	303	304	297	292	290	287
Lessors to class II.....	6	8	12	8	8	8	10	10
Class III line-haul operating.....	166	155	-	-	-	-	-	-
Lessors to class III.....	9	8	-	-	-	-	-	-
Switching and terminal ¹	253	237	223	221	219	215	215	207
Proprietary ²	100	67	53	53	51	50	47	46
Circular.....	18	18	18	21	19	18	17	-
Unofficial.....	9	6	3	1	2	4	5	2

- Represents zero.

¹ Includes operating, lessor, proprietary, circular, and unofficial companies.² Excludes those in systems which file consolidated reports combining mileage, investment, and other items on a net system basis.Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part I.

No. 841. RAILROADS—EQUIPMENT IN SERVICE: 1950 TO 1964

[Prior to 1960, excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 53-65]

ITEM	1950	1955	1960	1961	1962	1963	1964
Locomotives	42,951	33,533	31,178	30,889	30,701	30,506	30,296
Steam.....	26,680	6,266	374	210	136	112	93
Electric.....	827	639	498	484	441	438	402
Diesel.....	15,396	26,563	30,240	30,123	30,057	29,898	29,745
Other.....	48	65	66	72	67	58	56
New units installed ¹	3,215	1,097	389	288	764	834	963
Freight cars ²	1,745,778	1,723,747	1,690,396	1,635,342	1,581,213	1,542,456	1,517,564
Box.....	718,150	723,962	700,331	672,524	647,602	625,400	603,828
Gondola and hopper.....	874,801	845,809	831,473	804,440	778,187	760,192	753,957
Other.....	152,827	153,976	158,592	158,378	155,424	156,864	159,779
Aggregate capacity ¹1,000 tons.....	90,465	91,229	91,948	89,292	87,223	85,943	86,672
Average capacity ¹tons.....	52.6	53.7	55.4	55.7	56.3	56.8	58.2
New units installed ¹	40,032	29,070	54,032	26,279	29,237	33,245	52,308
Passenger-train cars	37,359	32,118	25,746	24,433	23,430	22,616	21,510
Coaches.....	16,488	13,543	10,287	9,840	9,432	9,286	8,739
Average seating capacity ¹	75	75	76	76	77	78	79
Baggage, express, and other non-passenger.....	13,817	13,388	10,077	9,728	9,356	9,027	8,834
Other.....	7,054	5,187	5,382	4,865	4,642	4,303	3,937
New units installed ¹	1,078	412	251	214	304	156	399
Air-conditioned cars ³	16,747	14,784	11,787	11,259	10,423	9,950	8,980

¹ Class I railroads. ² Excludes caboose cars. ³ Class I railroads and Pullman Company.Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part I.

No. 842. RAILROADS (CLASS I)—FUEL AND POWER CONSUMED AND RAILS AND TIES LAID: 1950 TO 1964

[Line-haul railroads only. See text, p. 560, for explanation of class limits. See *Historical Statistics, Colonial Times to 1957*, series Q 128-137, for related data]

ITEM	1950	1955	1960	1962	1963	1964
Fuel and power consumed:						
Coal.....1,000 short tons.....	55,452	11,427	39	8	7	7
Fuel oil.....mil. gal.....	2,284	376	89	101	90	85
Diesel oil.....mil. gal.....	1,827	3,393	3,472	3,463	3,545	3,630
Electricity.....mil. kw.-hr.....	2,260	2,082	1,641	1,687	1,609	1,515
Rails and ties laid:						
Rails (replacement and betterment).....1,000 short tons.....	2,464	1,890	915	823	947	1,009
Ties (in previously constructed tracks):						
Crossties.....1,000.....	30,494	24,149	14,319	13,428	13,667	14,738
Switch and bridge ties.....1,000 board ft.....	98,400	79,098	49,902	48,717	46,921	49,333

Source: Interstate Commerce Commission; *Annual Report*.

No. 843. RAILROADS—MILES OF ROAD OWNED, STATES: 1940 TO 1964

[As of December 31. Data are for actual length of line in each State without duplication]

STATE	1940	1950	1960	1964	STATE	1940	1950	1960	1964
U. S.-----	234,398	224,371	217,552	212,059	S. A.—Con.				
N. E.-----	6,677	6,396	6,088	5,730	W. Va.-----	3,831	3,719	3,681	3,582
Maine-----	1,882	1,830	1,784	1,691	N. C.-----	4,668	4,435	4,310	4,270
N. H.-----	1,002	936	854	817	S. C.-----	3,466	3,223	3,284	3,261
Vt.-----	919	889	811	719	Ga.-----	6,334	6,043	5,854	5,687
Mass.-----	1,793	1,726	1,633	1,573	Fla.-----	5,218	4,793	4,655	4,578
R. I.-----	194	185	181	157	E. S. C.-----	16,179	15,574	15,233	15,120
Conn.-----	887	830	825	773	Ky.-----	3,691	3,641	3,526	3,525
M. A.-----	20,175	19,180	17,469	16,404	Tenn.-----	3,573	3,471	3,402	3,339
N. Y.-----	7,739	7,493	6,463	5,858	Ala.-----	4,996	4,723	4,646	4,624
N. J.-----	2,103	1,992	1,914	1,853	Miss.-----	3,919	3,739	3,650	3,632
Pa.-----	10,328	9,695	9,092	8,693	W. S. C.-----	31,497	29,771	28,341	27,505
E. N. C.-----	41,281	39,851	38,949	38,254	Ark.-----	4,482	4,104	3,872	3,725
Ohio-----	8,501	8,418	8,322	8,139	La.-----	4,357	4,070	3,937	3,899
Ind.-----	6,889	6,652	6,593	6,525	Okl.-----	6,302	5,977	5,777	5,604
Ill.-----	11,949	11,643	11,201	10,996	Tex.-----	16,356	15,611	14,755	14,277
Mich.-----	7,303	6,803	6,640	6,461	Mt.-----	23,518	22,101	21,355	20,842
Wis.-----	6,639	6,335	6,193	6,133	Mont.-----	5,149	5,059	4,962	4,939
W. N. C.-----	48,293	47,108	46,367	45,725	Idaho-----	2,746	2,713	2,685	2,677
Minn.-----	8,421	8,333	8,174	8,037	Wyo.-----	2,008	1,925	1,882	1,848
Iowa-----	8,950	8,585	8,561	8,437	Colo.-----	4,552	4,273	3,786	3,775
Mo.-----	7,042	6,735	6,582	6,513	N. Mex.-----	2,812	2,496	2,473	2,190
N. Dak.-----	5,266	5,256	5,194	5,195	Ariz.-----	2,228	2,197	2,184	2,053
S. Dak.-----	4,006	3,958	3,920	3,910	Utah-----	2,082	1,788	1,736	1,725
Nebr.-----	6,044	5,800	5,721	5,574	Nev.-----	1,941	1,650	1,647	1,635
Kans.-----	8,564	8,441	8,215	8,050	Pac.-----	17,303	16,466	16,388	15,677
S. A.-----	29,475	27,924	27,362	26,802	Wash.-----	5,243	5,124	4,987	4,955
Del.-----	295	295	293	293	Oreg.-----	3,385	3,217	3,174	3,161
Md.-----	1,367	1,309	1,141	1,135	Calif.-----	7,947	7,533	7,630	7,516
D. C.-----	35	34	31	31	Alaska-----	536	567	572	20
Va.-----	4,261	4,073	4,113	4,085	Hawaii-----	192	25	25	25

Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1960, *Transport Statistics in the United States*, Part 1.

No. 844. RAILROADS (CLASS I)—REVENUES, EXPENSES, INCOME, AND CAPITAL EXPENDITURES: 1950 TO 1965

[In millions of dollars. See text, p. 560, for explanation of class limits. See also *Historical Statistics, Colonial Times to 1867*, series Q 103-117]

ITEM	1950	1955	1960	1961	1962	1963	1964	1965 (prel.)
Operating revenues-----	9,473	10,107	9,517	9,187	9,440	9,560	9,857	10,208
Freight-----	7,817	8,539	8,028	7,737	7,991	8,155	8,455	8,830
Passenger-----	813	743	640	625	619	588	578	553
Mail-----	374	287	331	342	344	359	329	311
Express-----	81	118	100	85	82	80	80	77
Other-----	387	420	417	401	404	399	414	431
Operating expenses-----	7,059	7,641	7,566	7,271	7,417	7,452	7,738	7,850
Maintenance-----	2,995	3,172	2,952	2,802	2,898	2,914	2,990	3,011
Way and structures-----	1,287	1,387	1,192	1,118	1,154	1,183	1,226	1,236
Equipment-----	1,708	1,785	1,760	1,684	1,743	1,732	1,764	1,775
Traffic-----	192	236	258	248	252	252	258	262
Transportation, rail line-----	3,491	3,768	3,833	3,711	3,755	3,771	3,921	4,020
Miscellaneous operations-----	110	108	82	77	77	71	68	67
General-----	271	357	441	433	436	443	501	490
Net revenue from railway operations-----	2,414	2,466	1,951	1,916	2,023	2,108	2,119	2,358
Tax accruals-----	1,105	1,081	990	901	905	886	871	916
Operating income-----	1,210	1,385	952	924	1,117	1,221	1,248	1,442
Net railway operating income-----	1,040	1,129	584	538	726	806	818	962
Ratio of expenses to revenues (percent)-----	74.5	75.6	79.5	79.2	78.6	78.0	78.5	76.9
Expenditures for capital improvements-----	1,065	908	919	646	833	1,045	1,417	1,631
Equipment-----	779	568	633	427	593	786	1,140	1,304
Roadway and structures-----	286	340	286	219	240	259	278	327

Source: Interstate Commerce Commission; *Annual Report*.

No. 845. RAILROADS (CLASS I)—SELECTED FREIGHT STATISTICS: 1950 TO 1965

[Excludes switching and terminal roads. Tons of 2,000 pounds. See text, p. 560, for explanation of class limits.
See also *Historical Statistics, Colonial Times to 1957*, series Q 93]

ITEM	1950	1955	1960	1963	1964	1965
Average miles of road operated.....	225,339	223,291	219,381	216,639	215,678	212,133
Operating revenue.....mil. dol.	7,817	8,538	8,025	8,155	8,455	8,836
Per ton-mile.....cents.	1.33	1.37	1.40	1.31	1.28	1.27
Per ton per road.....dollars.	3.04	3.25	3.51	3.44	3.38	3.48
Revenue-tons:						
Originated.....millions.	1,354	1,393	1,241	1,285	(NA)	(NA)
Carried.....millions.	2,570	2,607	2,281	2,371	2,499	2,539
Carried 1 mile.....millions.	588,578	623,615	572,309	621,659	659,327	697,736
Miles per revenue-ton per road (average haul)...	229.0	237.6	250.9	262.2	263.8	274.8
Freight train miles.....millions.	515	476	405	400	415	421
Freight train car-miles:						
Loaded, revenue and nonrevenue.....millions.	19,644	20,099	17,287	17,133	17,487	17,885
Empty.....millions.	10,140	11,054	10,872	10,992	11,393	11,420
Net ton-miles per train-mile ¹	1,224	1,374	1,466	1,604	1,616	1,685
Net ton-miles per loaded car-mile ¹	31.7	32.0	33.9	37.0	38.3	39.7
Train-miles per train-hour.....	16.8	18.6	19.5	20.1	20.2	20.1

NA Not available. ¹ Revenue and nonrevenue freight.

Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1, and unpublished data.

No. 846. RAILROADS (CLASS I)—CARS OF REVENUE FREIGHT LOADED, BY PRINCIPAL COMMODITIES: 1940 TO 1965

[In thousands. Figures are 52-week totals. See text, p. 560, for explanation of class limits]

YEAR	Total	Grain and grain products	Live-stock	Coal	Coke	Forest products	Ore	Miscellaneous	Mdse., less than carload	Cars loaded with highway trailers
1940.....	36,358	1,835	685	6,820	549	1,800	2,148	14,842	7,679	(NA)
1945.....	41,918	2,734	894	8,296	695	2,039	2,474	19,258	5,529	(NA)
1950.....	38,903	2,466	491	7,240	727	2,226	2,529	18,955	4,269	(NA)
1955.....	37,636	2,633	441	6,508	616	2,275	2,846	19,087	3,230	168
1960.....	30,441	2,786	259	5,318	403	1,950	2,209	15,707	1,809	554
1963.....	28,871	2,804	164	5,533	386	1,872	1,765	15,478	868	797
1964.....	29,027	2,625	153	5,530	423	1,960	2,005	15,693	639	890
1965.....	29,554	2,657	125	5,679	440	2,003	1,962	16,222	465	1,031

NA Not available.

Source: Association of American Railroads, Car Service Division, Washington, D.C.; annual report, *Cars of Revenue Freight Loaded*. Weekly reports are published currently.

No. 847. RAILROADS (CLASS I)—SELECTED PASSENGER STATISTICS: 1950 TO 1965

[See text, p. 560, for explanation of class limits. See also *Historical Statistics, Colonial Times to 1957*, series Q 87-89]

ITEM	1950	1955	1960	1964	1965 (prel.)
Average miles of road operated.....	150,349	120,711	94,117	81,795	76,993
Passenger revenue.....\$1,000..	813,417	742,945	640,268	577,910	552,775
Revenue per passenger-mile:					
Including commutation passengers.....cents.	2.56	2.60	3.01	3.17	3.18
Excluding commutation passengers.....cents.	2.46	2.70	3.03	3.16	3.14
Revenue passengers carried.....1,000..	486,194	431,999	325,872	313,016	298,877
Revenue passenger-miles.....millions.	31,760	28,526	21,258	18,248	17,389
Revenue passenger-miles per train-mile.....	88.5	95.2	100.9	99.4	100.0
Revenue passenger-miles per car-mile.....	17.0	17.8	19.3	20.3	20.9
Average journey per passenger per road.....miles..	65.3	66.1	65.3	58.3	58.2
Passenger-train miles.....1,000..	357,618	298,602	210,635	183,557	172,344
Passenger-carrying car-miles.....1,000..	1,854,737	1,570,916	1,101,021	897,696	832,102
Train-miles per train-hour.....	37.4	39.8	40.7	41.4	41.3

Source: Interstate Commerce Commission; *Annual Report*, and *Transport Statistics in the United States*, Part 1, and unpublished data.

No. 848. RAILROADS—EMPLOYEES, HOURS, AND COMPENSATION: 1950 TO 1965

[Excludes switching and terminal roads. See also *Historical Statistics, Colonial Times to 1957*, series Q141-142]

YEAR	ALL OPERATING CARRIERS ¹		CLASS I CARRIERS ²					
	Average number of employees	Total yearly compensation (\$1,000)	Average number of employees	Total hours (1,000)	Total yearly compensation (\$1,000)	Average hours per employee	Average compensation	
							Per hour ³	Per year
1950.....	1,236,879	4,644,890	1,220,401	2,876,591	4,594,423	2,357	\$1.60	\$3,765
1955.....	1,071,387	5,045,278	1,057,866	2,502,608	4,992,235	2,366	2.00	4,719
1960.....	793,071	4,956,902	780,971	1,840,615	4,893,622	2,358	2.66	6,270
1961.....	727,148	4,683,563	715,985	1,698,704	4,623,981	2,367	2.72	6,444
1962.....	711,000	4,721,895	700,146	1,672,389	4,662,065	2,389	2.79	6,659
1963.....	690,585	4,690,053	679,867	1,640,868	4,629,784	2,414	2.82	6,810
1964.....	675,348	4,757,589	665,034	1,619,804	4,697,884	2,436	2.90	7,064
1965 (prel.).....	(NA)	(NA)	639,961	1,564,736	4,793,066	2,445	3.06	7,460

NA Not available. ¹ Prior to 1960, excludes Alaska and Hawaii.² See text, p. 560, for explanation of class limits.³ Calculated for all classes of employees, including those not paid on an hourly basis.Source: Interstate Commerce Commission; annual report, *Transport Statistics in the United States*, Part 1, and Statement No. M-300.

No. 849. RAILROAD ACCIDENTS—PERSONS KILLED AND INJURED, BY STATUS: 1950 TO 1965

[As of December 31. Prior to 1960, excludes Alaska and Hawaii. Covers all reportable accidents. Statistics are not strictly comparable. Accidents causing damage to railroad property, with or without a casualty, were classified as train accidents in 1950 if they were \$275 or over, and beginning 1955, \$350 or over. See also *Historical Statistics, Colonial Times to 1957*, series Q 143-152]

YEAR	TOTAL		PASSENGERS ¹		EMPLOYEES		TRESPASSERS		OTHER PERSONS ²	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
1950.....	3,486	33,267	180	3,419	392	22,586	1,215	942	1,699	6,320
1955.....	2,761	27,840	24	2,253	282	19,011	867	680	1,588	5,896
1960.....	2,248	19,577	32	1,463	198	13,710	617	564	1,401	3,840
1963.....	2,141	27,456	13	2,135	173	19,992	571	657	1,384	4,672
1964.....	2,423	27,614	8	1,489	188	20,499	619	711	1,608	4,915
1965.....	2,399	25,789	11	1,189	184	19,133	634	668	1,570	4,799

¹ Data cover passengers on trains and travelers not on trains.² Includes casualties sustained in nontrain accidents. Nontrain accidents are those not caused directly by operation or movement of trains, locomotives, or cars, but attributable to shop machinery or use of tools and apparatus that result in reportable casualties.Source: Interstate Commerce Commission; annual report, *Accident Bulletin*.

No. 850. HIGHWAY GRADE CROSSINGS—NUMBER AND ACCIDENTS: 1950 TO 1965

[Prior to 1960, excludes Alaska and Hawaii. Covers all railroads, except as noted. Excludes casualties due to suicide, mental derangement, and attempt to escape custody. See also headnote, table 849. See also *Historical Statistics, Colonial Times to 1957*, series Q 125-127]

YEAR	HIGHWAY GRADE CROSSINGS ¹			ACCIDENTS				
	Total	Specially protected ²	Eliminated by separation of grades	Number	All persons		Involving motor vehicles	
					Number killed	Number injured	Persons killed	Persons injured
1950.....	227,364	35,968	61	4,000	1,576	4,368	1,393	4,206
1955.....	226,318	39,060	84	3,846	1,446	4,014	1,313	3,886
1960.....	224,513	42,267	102	3,195	1,364	3,424	1,254	3,277
1963.....	220,165	43,484	72	3,373	1,302	3,524	1,217	3,435
1964.....	218,723	43,990	159	3,755	1,543	3,783	1,432	3,676
1965.....	(NA)	(NA)	(NA)	3,820	1,534	3,801	1,434	3,663

NA Not available. ¹ Class I railroads only.² Includes crossings with operated gates or watchmen, or both, during at least part of day; and those with audible or visible signals, or both. Excludes those with fixed signs only.Source: Interstate Commerce Commission; annual reports, *Accident Bulletin*, *Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part 1.

No. 851. PULLMAN COMPANY OPERATIONS: 1930 TO 1965

[Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 138-140]

YEAR	Average miles of road over which operations conducted	Revenue-passenger miles ¹ (millions)	Employees, annual average	YEAR	Average miles of road over which operations conducted	Revenue-passenger miles ¹ (millions)	Employees, annual average
1930.....	129,578	12,516	26,165	1960.....	67,467	3,358	7,320
1935.....	112,117	7,146	20,436	1961.....	63,035	3,046	6,688
1940.....	109,595	8,214	20,877	1962.....	61,278	2,905	6,392
1945.....	95,765	27,276	41,601	1963.....	59,798	2,516	5,902
1950.....	102,722	10,558	22,320	1964.....	52,994	2,218	5,544
1955.....	89,124	6,882	18,061	1965.....	51,057	2,014	5,347

¹ Beginning 1940, includes operations on Canadian and Mexican railroads; excludes chartered car operations.Source: Interstate Commerce Commission; annual reports, *Statistics of Railways in the United States*, and, beginning 1955, *Transport Statistics in the United States*, Part 2.

No. 852. PETROLEUM PIPELINE COMPANIES—SUMMARY OF SELECTED FINANCIAL DATA: 1930 TO 1964

[In thousands of dollars, except miles of line operated. Prior to 1960, excludes Alaska and Hawaii. Refers to pipeline companies operating in interstate commerce and subject to jurisdiction of Interstate Commerce Commission. See *Historical Statistics, Colonial Times to 1957*, series Q 342, for miles of line operated]

YEAR	Miles of line operated	Investment in carrier property	Other investments	Total current assets	Pipeline operating revenues	Pipeline operating expenses	Pipeline operating income	Net income
1930.....	88,727	772,711	96,184	133,428	237,910	99,363	121,816	123,741
1935.....	92,037	763,009	119,071	46,949	197,368	89,364	79,586	78,249
1940.....	100,156	841,977	64,095	47,163	225,760	101,919	82,558	79,857
1945.....	113,351	1,042,523	86,713	115,370	304,268	191,668	67,127	65,941
1950.....	128,589	1,655,973	100,798	192,291	441,627	254,701	89,047	81,303
1955.....	140,374	2,585,565	80,679	352,762	677,605	346,985	176,257	153,334
1960.....	151,968	3,299,501	113,504	393,028	770,417	417,640	198,911	169,398
1961.....	153,737	3,406,830	92,398	432,146	786,718	419,854	214,616	180,698
1962.....	155,053	3,518,420	81,817	432,084	810,605	426,363	227,030	203,800
1963.....	156,812	3,914,665	99,230	534,686	840,260	437,701	232,220	200,770
1964.....	159,583	4,040,385	152,535	530,431	865,079	250,456	362,623	209,527

¹ Represents investments and special funds.² Includes pipe-line taxes but not Federal income taxes.

No. 853. PETROLEUM PIPELINES—OIL TRANSPORTED: 1950 TO 1964

[Prior to 1960, excludes Alaska and Hawaii. See headnote, table 852. See *Historical Statistics, Colonial Times to 1957*, series Q 343-344, for oil originated]

ITEM	1950	1955	1960	1961	1962	1963	1964
Number of companies.....	76	84	87	89	92	94	90
Mileage operated.....	128,589	140,374	151,968	153,737	155,053	156,812	159,583
Gathering lines.....	47,593	50,645	49,401	49,656	48,063	47,226	46,886
Trunk lines.....	80,996	89,729	102,567	104,081	106,990	109,586	112,697
Oil transported (million bbl.):							
Total received into system.....	2,766	4,058	4,783	4,941	5,123	5,334	5,576
From connecting carriers.....	944	1,434	1,636	1,639	1,666	1,685	1,628
Crude oil.....	879	1,299	1,402	1,402	1,411	1,433	1,412
Refined oils.....	65	134	234	237	254	252	216
Originated.....	1,822	2,624	3,147	3,302	3,457	3,649	3,948
Crude oil.....	1,525	2,038	2,239	2,336	2,379	2,467	2,567
Refined oils.....	297	586	909	966	1,078	1,182	1,381
Total delivered out of system.....	2,740	4,039	4,783	4,923	5,109	5,322	5,565
To connecting carriers.....	937	1,444	1,639	1,646	1,624	1,648	1,684
Crude oil.....	874	1,320	1,400	1,392	1,353	1,367	1,387
Refined oils.....	63	115	240	254	271	281	297
Terminated.....	1,803	2,595	3,144	3,277	3,485	3,673	3,881
Crude oil.....	1,510	1,992	2,253	2,331	2,428	2,535	2,590
Refined oils.....	293	603	891	946	1,057	1,138	1,292
Trunk-line movement (million bbl.):							
Crude oil.....	1,977	2,781	3,091	3,108	3,213	3,355	3,446
Refined oils.....	360	717	1,124	1,191	1,322	1,416	1,601
Trunk-line barrel-miles (billions):							
Crude oil.....	577	839	976	996	998	1,054	1,062
Refined oils.....	107	205	304	317	347	369	449

Source of tables 852 and 853: Interstate Commerce Commission; annual reports, *Statistics of Oil Pipeline Companies*, and, beginning 1955, *Transport Statistics in the United States*, Part 6.